

SOUTHERN  
RAILWAY SUPPLY  
COMPANY.

IVY  
ANNEX

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ILLUSTRATED CATALOGUE

OF THE

SOUTHERN RAILWAY SUPPLY CO.

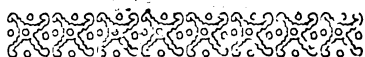
MANUFACTURERS OF AND

DEALERS IN

SUPPLIES

OF

EVERY DESCRIPTION.



13 AND 15 SOUTH FOURTEENTH STREET,  
(PEARL BLOCK),

RICHMOND, VA.

Virginiana

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357  
.56

247795

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... PRESS OF ...  
J. W. FERGUSON & SON,  
RICHMOND, VA.

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## INTRODUCTION.

---

In presenting this Catalogue to the Trade, we do so with the hope that it may prove of service. It has been impossible to include within such limited space many articles for which there is frequent demand, and which we carry in stock; but our aim has been to present the leading articles called for in the various branches of the Supply Trade.

We will at all times be happy to furnish printed matter descriptive of goods not shown in this Catalogue, and to make special quotations on such things as are constantly changing in price.

We will be glad if our customers will, as far as possible, give the numbers of the pages and figures in ordering.

SOUTHERN RAILWAY SUPPLY CO.

Richmond, Va.,

March, 1893.





## WROUGHT-IRON PIPE

FOR STEAM, GAS AND WATER.

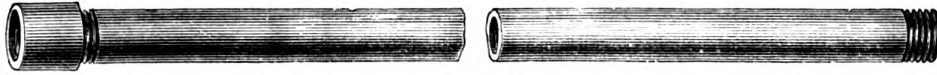


FIG. 1.

## PLAIN.

Inside Diameter,	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8
Price per foot.....	4	4	4 $\frac{1}{2}$	6	7 $\frac{1}{2}$	10 $\frac{1}{2}$	14	24	33	50	62	74	88	1 06	1 28	1 65	2 10	2 75
Weight per foot,	.24	.42	.56	.84	1.12	1.67	2.24	2.68	3.61	5.74	7.54	9.00	10.66	12.34	14.50	18.76	23.27	28.18

List Revised October 24th, 1892.

## GALVANIZED.

Inside Diameter.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
Price per foot.....		5	5	5 $\frac{1}{2}$	8	9 $\frac{1}{2}$	13 $\frac{1}{2}$	18 $\frac{1}{2}$	28	38	57	68	88	1 03	1 31	1 60

Prices on Extra Heavy and Flanged Pipe on application.

## CUTTING AND THREADING PIPE, PER THREAD, NET.

$\frac{1}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8
5	5	5	5	6	7	8	10	15	20	25	35	45	55	70	85	1 00

## LAP-WELDED BOILER TUBES.



FIG. 2.

Outside Diameter	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{3}{4}$	4	$4\frac{1}{2}$	5	6	7	8
Price per foot.....	37	35	31	28	26	29	32	36	39	43	45	47	54	62	74	1 00	1 45	1 85
Weight per foot..	.70	.90	1.24	1.66	1.90	2.16	2.75	3.00	3.33	3.96	4.28	4.60	5.47	6.17	7.58	10.16	11.90	13.65

List Revised October 24th, 1892.

## ASBESTOS STANDARD PIPE COVERING.

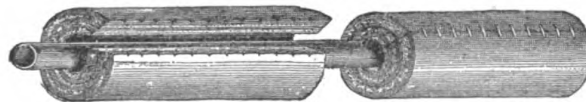


FIG. 3.

Inside Diameter of Pipe.	Covering Per Foot.	Elbows. Each.	Tees. Each.	Valves. Each.	Inside Diameter of Pipe.	Covering Per Foot.	Elbows. Each.	Tees. Each.	Valves. Each.
$\frac{1}{8}$ & $\frac{3}{4}$ in.	17	20	28	21	4 in.	37	37	50	50
1	18	20	28	21	$4\frac{1}{2}$ "	39	39	54	54
$1\frac{1}{4}$ "	19	20	28	21	5 "	42	42	57	57
$1\frac{1}{2}$ "	20	20	28	21	6 "	48	48	64	64
2 "	23	23	30	24	7 "	54	54	74	74
$2\frac{1}{2}$ "	25	25	34	34	8 "	62	62	82	82
3 "	30	30	42	42	9 "	67	67	92	92
$3\frac{1}{2}$ "	34	34	45	45	10 "	74	74	1 00	1 00

RICHMOND, VIRGINIA.

## FITTINGS FOR WROUGHT-IRON PIPE.

ELBOW.

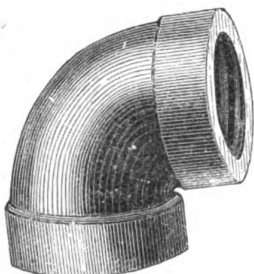


FIG. 4.

REDUCING ELBOW.

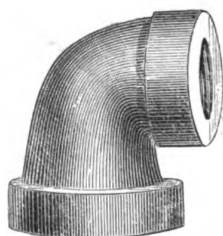


FIG. 5.

45° ELBOW.



FIG. 6.

SIDE OUTLET ELBOW.

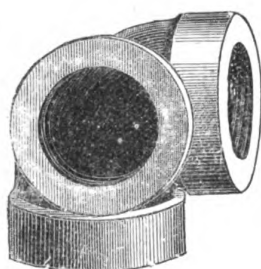


FIG. 7.

TEE.

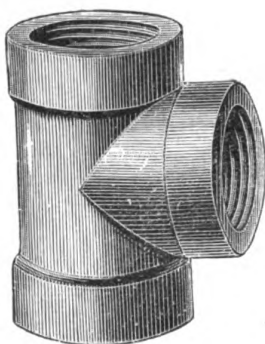


FIG. 8.

REDUCING TEE.

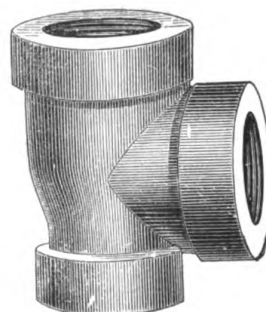


FIG. 9.

REDUCING TEE.

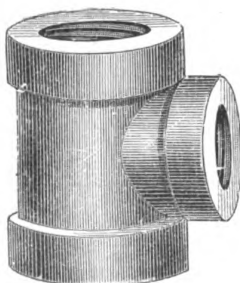


FIG. 10.

CROSS.

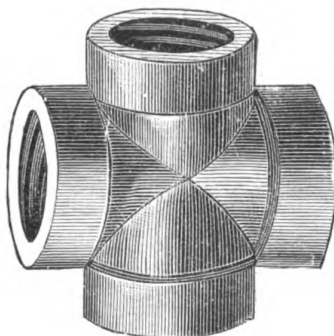


FIG. 11.

Y BRANCH.

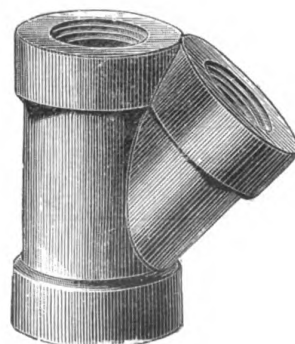


FIG. 12.

RICHMOND, VIRGINIA.

FITTINGS FOR WROUGHT-IRON PIPE.

RETURN BEND.  
Close Pattern.

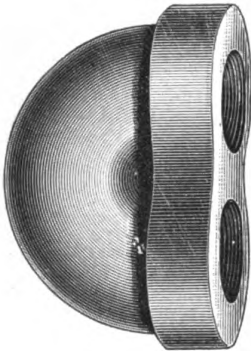


FIG. 13.

RETURN BEND.  
Open Pattern.

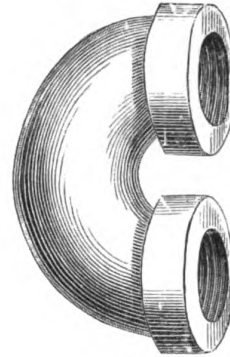


FIG. 14.

MALLEABLE UNION.

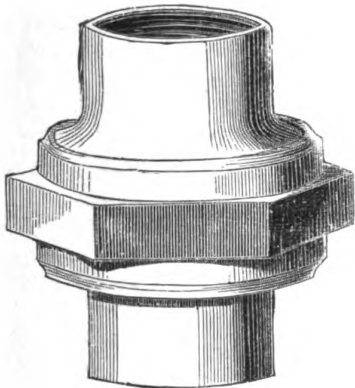


FIG. 15.

FLANGE UNION.

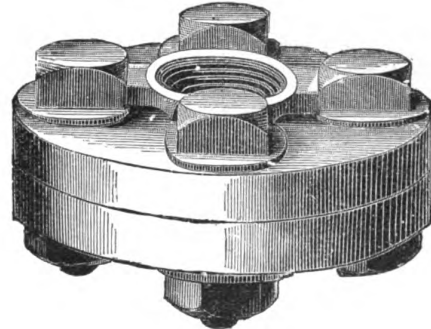


FIG. 16.

BUSHING.

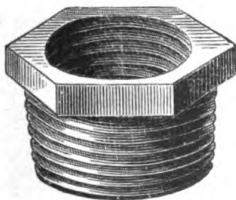


FIG. 17.

PLUG.



FIG. 18.

CAP.

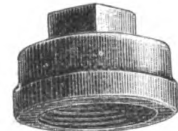


FIG. 19.

RICHMOND, VIRGINIA.

## Fittings for Wrought-Iron Pipe.

NIPPLE.

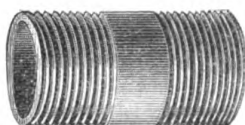


FIG. 20.

CLOSE NIPPLE.



FIG. 21.

COUPLING.



FIG. 22.

REDUCING COUPLING.

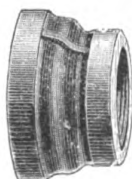


FIG. 23.

LOCK NUT.



FIG. 24.

LONG SCREW.



FIG. 25.

WROUGHT-IRON BEND.

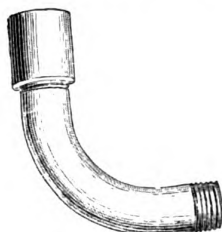


FIG. 26.

FLANGE.

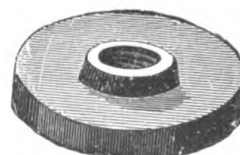


FIG. 27.

RICHMOND, VIRGINIA.



## IRON PIPE FITTINGS.

SIZE OF PIPE,	INCHES,	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8
Ells,	04	05	06	09	13	20	25	40	75	101	35	1	80
Ells—Reducing,	05	06	07	11	16	23	29	46	83	101	50	2	10
Ells—Angle,	06	07	11	16	23	29	46	83	101	50	2	10	11
Ells—Side Outlet,	06	07	11	16	23	29	46	83	101	50	2	10	11
Tees,	06	07	11	16	23	29	46	83	101	50	2	10	11
Tees—Reducing,	07	08	11	15	23	35	44	70	101	50	2	10	11
Y Branches,	08	10	12	18	28	40	50	80	101	50	2	10	11
Crosses,	10	12	14	21	32	46	58	92	101	50	2	10	11
Crosses—Reducing,	10	12	14	21	32	46	58	92	101	50	2	10	11
Return Bends, Close Pattern,	10	12	14	21	32	46	58	92	101	50	2	10	11
Return Bends, Open Pattern,	10	12	14	21	32	46	58	92	101	50	2	10	11
Unions—Malleable,	15	18	20	28	34	46	60	80	101	50	2	10	11
Flange Unions,	15	18	20	28	34	46	60	80	101	50	2	10	11
Bushings,	03	05	06	07	09	10	13	17	27	42	60	80	10
Plugs,	03	03	04	05	06	10	13	20	35	50	75	85	10
Caps,	03	03	04	05	06	10	13	20	35	50	75	85	10
Lock Nuts,	04	04	06	07	08	11	15	22	30	50	80	10	10
Reducers,	05	06	07	10	12	18	25	36	50	75	10	10	10
Couplings,	05	06	07	10	12	18	25	36	50	75	10	10	10
37. Nipples—Close or Short,	05	06	07	10	12	18	25	36	50	75	10	10	10
Nipples—Long,	07	09	10	11	15	20	25	35	50	75	10	10	10
Nipples—5 in. long,	16	17	18	20	22	29	36	44	59	80	10	10	10
Nipples—6 in. long,	17	18	19	21	24	31	38	46	54	85	10	10	10
Nipples—7 in. long,	18	19	20	22	27	33	40	49	59	91	10	10	10
Nipples—8 in. long,	19	20	21	23	29	35	42	51	61	101	10	10	10
Nipples—9 in. long,	20	21	22	25	31	38	45	54	64	101	10	10	10
Nipples—10 in. long,	21	22	23	27	33	40	48	57	67	101	10	10	10
Nipples—12 in. long,	23	25	27	31	40	46	55	64	74	101	10	10	10
Long Screws,	30	35	40	55	75	100	130	170	220	280	350	440	550

## GALVANIZED IRON FITTINGS.

SIZE OF PIPE,	INCHES,	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6	7	8
Ells,	09	12	18	30	45	55	85	101	60	35	10	10	20
Tees,	13	17	25	40	60	85	120	252	85	3	80	5	25
Couplings,	08	10	13	18	25	33	40	60	80	10	10	10	20
Nipples—Close or Short,	08	09	11	13	17	23	32	65	100	125	150	20	25
Unions,	24	27	37	50	70	90	120	252	300	350	440	550	660

Right and Left, and Left Hand Fittings, will be charged 25 per cent. more than Right Hand Fittings.

RICHMOND, VIRGINIA.

## Fittings for Wrought-Iron Pipe.

MANIFOLD.

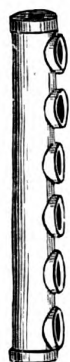


FIG. 28.

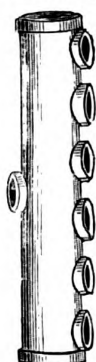
MANIFOLD.  
Back Outlet.

FIG. 29.

HOOK PLATES.



FIG. 30.



FIG. 31.

EXPANSION PLATE.



FIG. 32.

## MANIFOLDS OR BRANCH TEES.

Number of Outlets.....	2	3	4	5	6	7	8	9	10	12
1 in. Outlets, 2½ in. center to center, { 1 in. or 1¼ in. run, 70 80 95 1 10 1 35 2 05 2 35 2 55 2 85 3 75										
1½ in. run..... 75 90 1 05 1 20 1 50 2 20 2 50 2 80 3 15 4 00										
2 " "..... 1 00 1 20 1 60 1 80 2 00 2 40 2 80 3 30 4 00 4 75										
2½ " "..... 2 10 2 50 2 90 3 25 3 60 4 00 4 50 5 00 5 50 6 00										
1½ in. Outlets, 3 in. center to center, { 1½ " "..... 1 20 1 60 2 00 2 40 2 80 3 20 3 60 4 00 4 40 4 80										
2 " "..... 1 40 1 85 2 45 2 90 3 40 3 90 4 40 5 00 5 50 6 00										
1½ in. Outlets, 3½ in. center to center, 2½ " "..... 1 75 2 25 2 75 3 25 3 75 4 25 4 75 5 50 6 00 6 50										
2 in. Outlets, 4½ in. center to center, 3 " "..... 2 90 3 80 4 70 5 65 6 70 8 10 8 80 9 50 11 00 13 50										

## HOOK AND EXPANSION PLATES.

Number of Pipes.....	1	2	3	4	5	6	7	8	9	10	12
Hook Plates—¾ Pipe..... 07 12 16 20 24 28 32 36 43 50 70											
" 1 "..... 09 15 21 27 32 40 48 56 65 70 1 00											
" 1¼ "..... 10 20 30 40 50 65 75 80 95 1 05 1 25											
" 1½ "..... 20 40 60 80 1 00 1 20 1 40 1 60 1 80 2 00 2 40											
" 2 "..... 30 50 75 1 00 1 25 1 50 1 75 2 00 2 25 2 50 3 00											
Expansion Plates {¾ Pipe..... 10 16 24 34 40 50 60 70 80 90 1 10											
1 "..... 12 20 27 38 45 55 65 75 85 95 1 20											
1½ "..... 15 30 38 50 65 75 90 1 05 1 20 1 35 1 75											

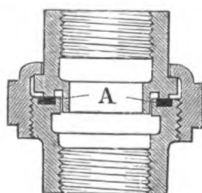


FIG. 33.

## "AMERICAN" UNIONS.

Size.....	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Plain, each.....	.20	.24	.28	.35	.40	.56	.80	.95	2.00	2.75
Galvanized.....	.24	.28	.35	.46	.55	.78	1.12	1.35	2.90	3.75

RICHMOND, VIRGINIA.

## PIPE HOOKS.



FIG. 34.

Size.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2
Pipe Hooks, per 100.....	50	60	75	90	1 10	1 30	1 50	2 00

## REVISED CLASSIFICATION AND PRICE-LIST OF MALLEABLE AND GALVANIZED FITTINGS.

		PER POUND. PRICE				PER POUND. PRICE.	
CLASS A.		Mal.	Gal.	CLASS B—Continued.		Mal.	Gal.
Elbows, $\frac{1}{8}$ , $\frac{1}{4}$ x $\frac{1}{8}$ , $\frac{3}{8}$ x $\frac{1}{8}$ .....	} 25 35			Return Bends, to 1 in., inclusive.....	} 16 23		
Tees, $\frac{1}{8}$ , $\frac{1}{4}$ x $\frac{1}{8}$ , $\frac{1}{4}$ x $\frac{3}{8}$ , $\frac{3}{8}$ x $\frac{1}{8}$ .....				Wall Plates.....			
Reducing Couplings, $\frac{1}{4}$ x $\frac{1}{8}$ , $\frac{3}{8}$ x $\frac{1}{8}$ .....				CLASS C.			
Red Couplings.....				Elbows and Tees, $\frac{3}{4}$ to 1 in., inclusive	} 13 20		
R. & L. and Right Couplings, $\frac{1}{8}$ in....			Such as have smaller outlets than $\frac{3}{4}$ to be classed as "B."				
CLASS B.				Crosses, $1\frac{1}{4}$ and larger.....			
Elbows and Tees, $\frac{1}{4}$ to $\frac{1}{2}$ in. inclusive,	} 16 23			Service or Street Ells, 1 and larger...			
Elbows, Side Outlets, all sizes.....				Plugs, Caps and Locknuts, $1\frac{1}{4}$ and larger.....			
Service or Street Ells, to $\frac{3}{4}$ in., inclu..				Reducing Couplings, $1\frac{1}{4}$ and larger....			
Crosses, to 1 in., inclusive.....				R. & L. Fittings, $1\frac{1}{4}$ and larger.....			
Drop Ells and Tees, all sizes.....				R. Couplings, 1 in. and $1\frac{1}{4}$ in.....			
Four-Way Tees, all sizes.....				Return Bends, $1\frac{1}{4}$ in. and larger.....			
Plugs, Caps and Locknuts, to 1 in., inc.				R. & L. Couplings, 1 in. and larger...			
Reducing Couplings, $\frac{3}{8}$ x $\frac{1}{4}$ to 1 in., inclusive.....				CLASS D.			
R. & L. Couplings, $\frac{1}{4}$ to $\frac{3}{4}$ , inclusive....				Elbows and Tees, $1\frac{1}{4}$ and larger.....	} 10 17		
Extension Pieces, all sizes.....				Such fittings, in this Class, that have outlets smaller than 1 in. to be classed as "C."			
R. & L. Fittings, to 1 in., inclusive.....				Right-Hand Couplings, $1\frac{1}{4}$ and 2 in....			
R. H. Couplings, $\frac{1}{4}$ to $\frac{3}{4}$ , inclusive.....							
Waste Nuts.....							
Chandelier Hooks.....							

## CAST-IRON FLANGES.

Size of Pipe.	DIAMETER OF FLANGE—INCHES.																		
	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7	7 $\frac{1}{2}$	8	8 $\frac{1}{2}$	9	9 $\frac{1}{2}$	10	10 $\frac{1}{2}$	11	11 $\frac{1}{2}$	12
$\frac{3}{8}$ in.	14	17	20	26	31	40	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
"	.....	17	20	26	31	40	50	55	65	75	85	95	.....	.....	.....	.....	.....	.....	.....
"	.....	18	21	28	33	40	50	60	68	80	90	1 00	.....	.....	.....	.....	.....	.....	.....
1	.....	20	22	28	33	42	52	62	72	80	90	1 00	1 10	.....	.....	.....	.....	.....	.....
1 $\frac{1}{4}$	.....	23	25	30	35	42	52	62	72	80	90	1 00	1 10	1 20	1 40	.....	.....	.....	.....
1 $\frac{1}{2}$	.....	.....	31	36	42	52	62	72	80	90	1 00	1 10	1 20	1 40	.....	.....	.....	.....	.....
2	.....	.....	.....	38	45	55	65	75	80	90	1 00	1 15	1 25	1 45	1 65	1 90	.....	.....	.....
2 $\frac{1}{2}$	.....	.....	.....	.....	45	55	65	75	80	90	1 00	1 15	1 30	1 45	1 65	1 90	2 00	2 25	.....
3	.....	.....	.....	.....	.....	55	65	75	84	96	1 08	1 22	1 37	1 52	1 69	1 90	2 12	2 35	2 60
3 $\frac{1}{2}$	.....	.....	.....	.....	.....	70	75	87	1 00	1 13	1 26	1 41	1 55	1 75	1 85	1 95	2 25	2 50	2 85
4	.....	.....	.....	.....	.....	.....	87	1 04	1 22	1 40	1 58	1 76	1 96	2 16	2 36	2 56	2 85	3 50	.....
4 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	1 55	1 70	1 90	2 10	2 32	2 54	2 76	3 00	3 75	.....
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	1 65	1 80	2 00	2 20	2 40	2 60	2 80	3 05	3 75	.....
6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 20	2 40	2 60	2 80	3 00	3 20	3 45	3 75	.....
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2 80	3 00	3 75	4 10	4 50
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4 00	4 50	5 00	5 50

RICHMOND, VIRGINIA.

## IRON BODY VALVES.

## GLOBE VALVES.

## IRON BODY, BRASS MOUNTED.

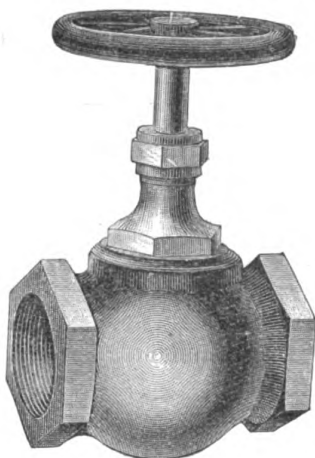


FIG. 35—SCREWED.

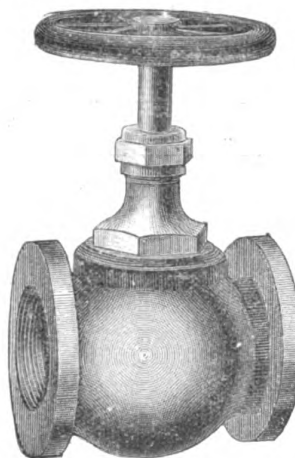


FIG. 36—FLANGED.

SIZE.....	1	1½	1½	2	2½	3
Globe, Screwed.....	2 00	2 50	3 50	5 00	7 50	10 50
Globe, Flanged.....	3 00	3 75	5 00	6 75	9 50	13 50

## IRON BODY, BRASS MOUNTED, WITH YOKE.

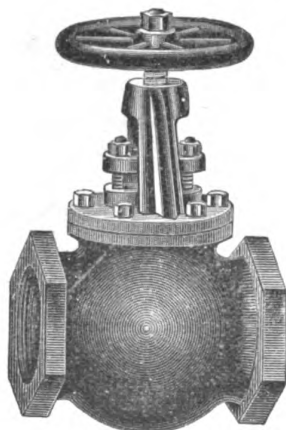


FIG. 37—SCREWED.

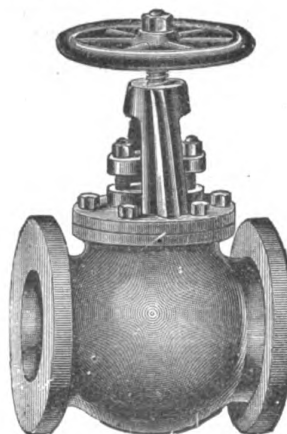


FIG. 38—FLANGED.

SIZE.....	2	2½	3	3½	4	4½	5	6
Globe, with Yoke, Screwed.....	8 00	10 50	14 50	18 00	21 00	28 00	32 00	44 00
Globe, with Yoke, Flanged.....	9 75	12 50	17 50	21 50	25 00	32 00	36 00	49 00

RICHMOND, VIRGINIA.

## IRON BODY VALVES.

## ANGLE VALVES.

IRON BODY, BRASS MOUNTED.

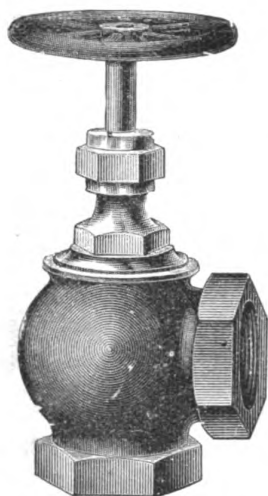


FIG. 39—SCREWED.



FIG. 40—FLANGED.

SIZE.....	1	1½	1½	2	2½	3
Angle Valve, Screwed.....	2 00	2 50	3 50	5 00	7 50	10 50
Angle Valve, Flanged.....	3 00	3 75	5 00	6 75	9 50	13 50

IRON BODY, BRASS MOUNTED, WITH YOKE.

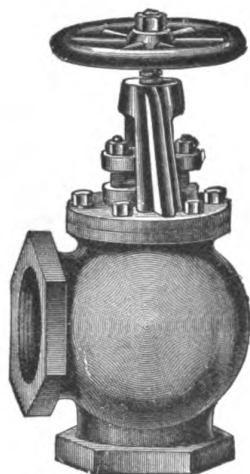


FIG. 41—SCREWED.

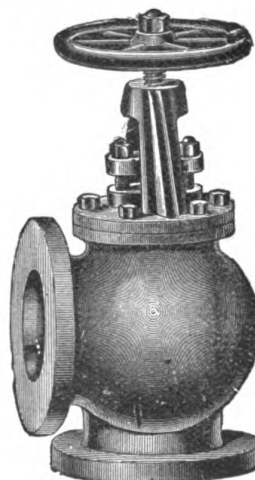


FIG. 42—FLANGED.

SIZE.....	2	2½	3	3½	4	4½	5	6
Angle Valve, with Yoke, Screwed..	8 00	10 50	14 50	18 00	21 00	28 00	32 00	44 00
Angle Valve, with Yoke, Flanged..	9 75	12 50	17 50	21 50	25 00	32 00	36 00	49 00

RICHMOND, VIRGINIA.

## CHECK VALVES.

IRON BODY, BRASS MOUNTED.

HORIZONTAL CHECK.

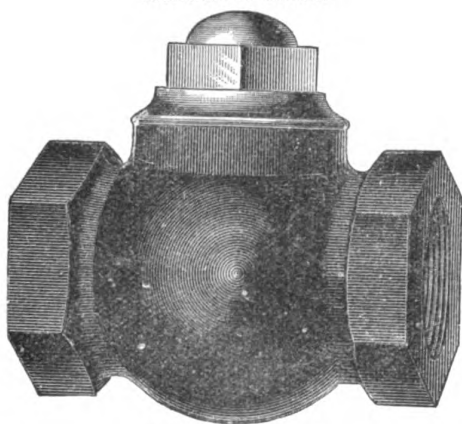


FIG. 43—SCREWED.

VERTICAL CHECK.

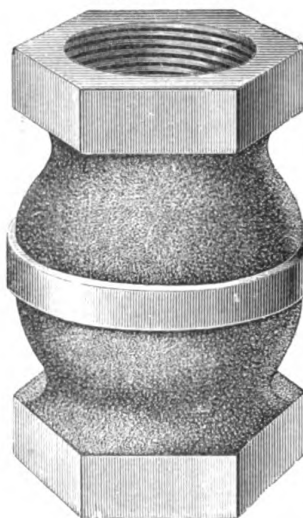


FIG. 44—SCREWED.

Size .....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Checks Figs. 43.. .....	95	1 05	1 15	1 25	1 50	2 25	2 75	3 75	6 25	9 75
“ “ 44.. .....					1 50	2 25	2 75	3 75	6 25	9 75

## ALL-IRON COCKS.

IRON COCK.

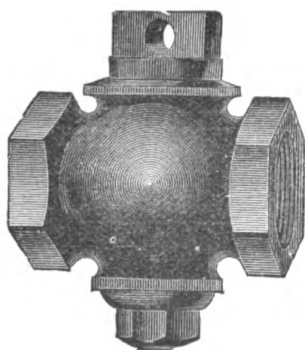


FIG. 45—SCREWED.

IRON COCK—THREE-WAY.

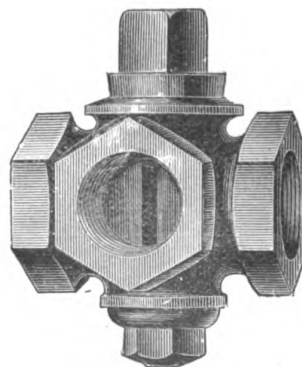


FIG. 46—SCREWED.

Size .....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Iron Cock, Flat or Square Head.....	70	75	80	90	1 25	1 50	2 00	2 60	4 50	6 50
Three-Way Iron Cock.....				1 30	1 75	2 00	2 75	4 00	6 00	8 50

RICHMOND, VIRGINIA.



## SAFETY VALVES.

IRON BODY, BRASS MOUNTED.

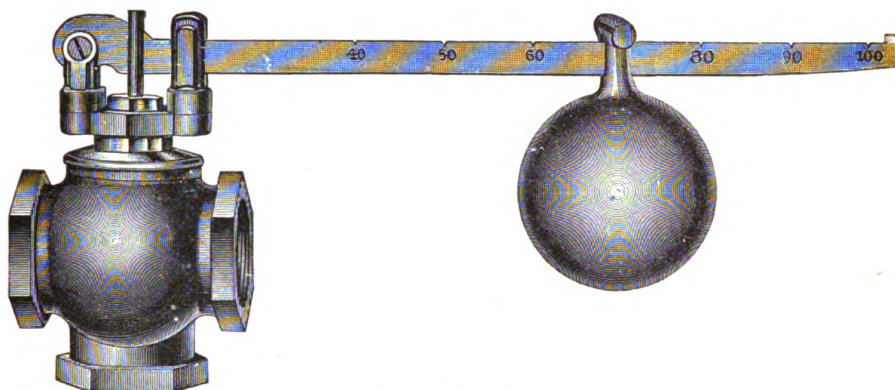


FIG. 47—SCREWED.

Size.....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
Screwed .....	2 50	3 50	5 00	6 00	8 00	13 00	18 00	24 00	30 00	36 00	44 00	60 00

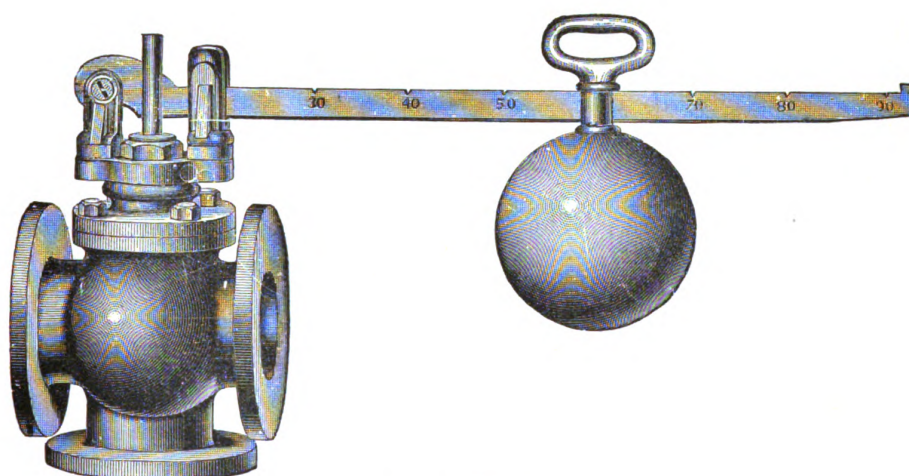


FIG. 48—FLANGED.

Size .....	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
Flanged .....	5 00	6 75	8 25	10 50	16 00	22 50	29 25	36 00	42 00	50 00	67 50

RICHMOND, VIRGINIA.

## FOOT VALVE.

IRON BODY, BRASS MOUNTED.

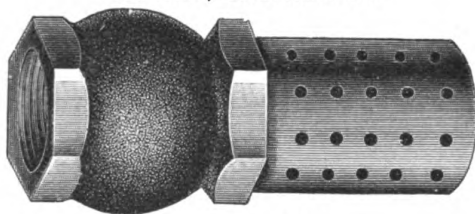


FIG. 49—SCREWED.

## IRON STRAINER.



FIG. 50—SCREWED.

Size .....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6
Foot Valve—Plain .....	1 25	1 50	1 75	2 50	3 50	4 25	5 50	7 50	10 00	13 00	24 00
“ Galvanized.....		1 75	2 25	3 00	4 50	6 00	7 00	9 00	11 00	.....	.....
Iron Strainers.....	30	40	50	75	1 00	1 50	2 00	3 00	3 75	4 75	6 50
“ Galvanized .....	40	50	75	1 00	1 50	2 00	3 00	4 50	6 00	7 00	10 00

## BACK-PRESSURE VALVE.

IRON BODY, BRASS MOUNTED.

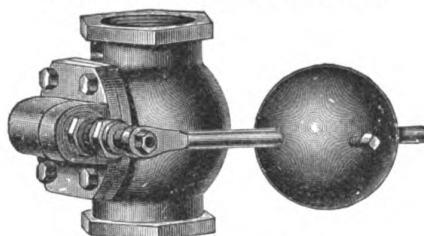


FIG. 51—SCREWED.

Size .....	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
Screwed .....	8 00	10 50	14 50	18 00	21 00	32 00	44 00	85 00
Flanged .....	9 75	12 50	17 50	21 50	25 00	36 00	49 00	91 00

## LUNKENHEIMER'S RE-GRINDING VALVES.

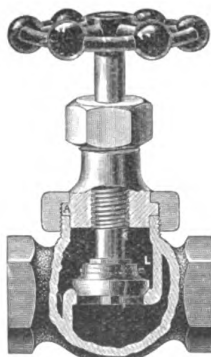


FIG. 52.

Size .....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Brass Globe and Angle Valves..	70	70	85	1 15	1 45	2 00	2 80	3 90	6 20	12 00	16 50

For other goods in this line, see Special Catalogue.

RICHMOND, VIRGINIA.



## THROTTLE VALVES.

IRON BODY, BRASS MOUNTED.

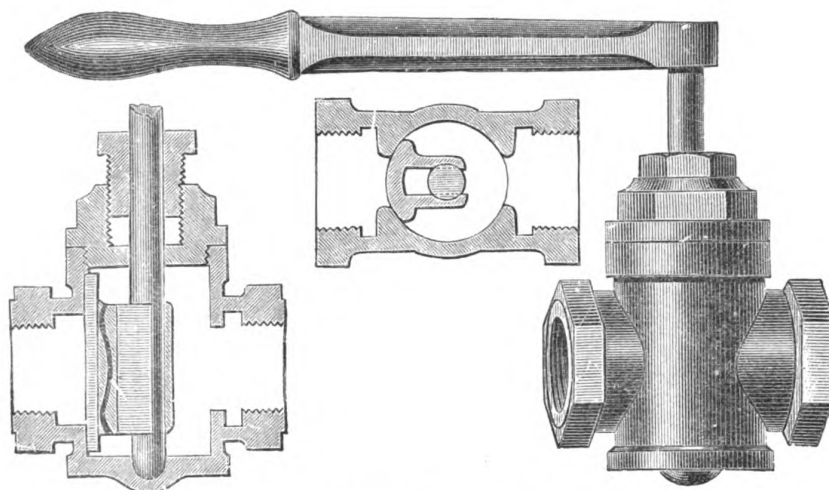


FIG. 53—SCREWED.

Size .....	1	1½	1½	2	2½	3	3½	4
Throttle Valves.....	8 00	10 00	12 00	18 00	24 00	32 00	40 00	48 00

## BUTTERFLY VALVE.

IRON BODY, BRASS MOUNTED.

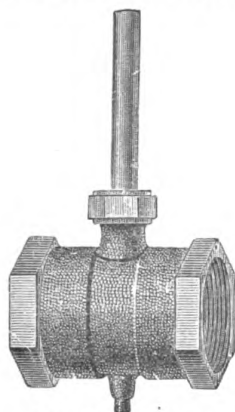


FIG. 54—SCREWED.

## EXPANSION JOINT.

IRON BODY, BRASS MOUNTED.

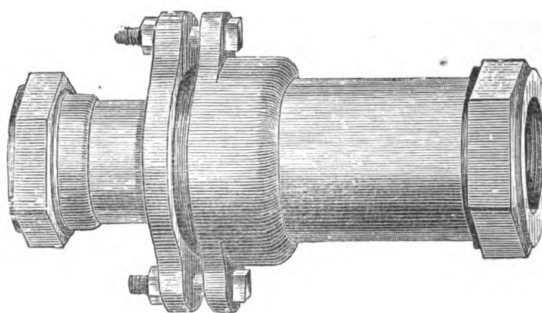


FIG. 55—SCREWED.

Size .....	1	1½	1½	2	2½	3	3½	4	5	6
Butterfly Valves.....	3 00	3 50	4 50	6 00	8 00	12 00	16 00	20 00	.....	.....
Expansion Joints.....	.....	8 00	9 00	11 00	13 00	17 50	25 00	30 00	45 00	55 00

RICHMOND, VIRGINIA.

## STANDARD GATE VALVES.

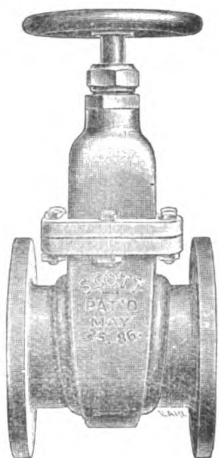


FIG. 56—FLANGED.

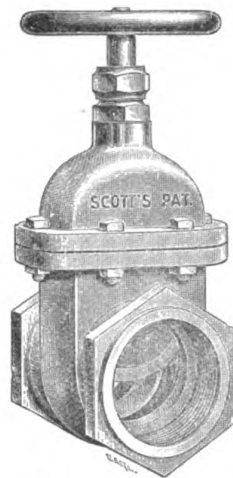


FIG. 57—SCREWED.

Size .....	2½	3	3½	4	5	6	7	8
Fig. 56 } .....	12 00	15 00	18 00	20 00	25 00	30 00	40 00	50 00
Fig. 57 } .....								

BRASS.

QUICK OPENING.



FIG. 58.

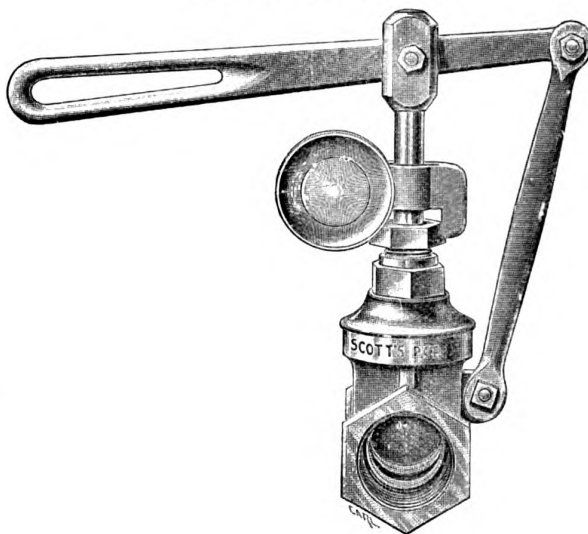


FIG. 59.

Size .....	½	¾	1	1¼	1½	2	2½	3
Fig. 58.....	1 20	1 75	2 50	3 50	5 00	7 50	15 00	22 00
Fig. 59.....		3 00	4 00	5 00	7 00	10 00	19 00	25 00

RICHMOND, VIRGINIA.

## BRASS VALVES.

GLOBE VALVE.

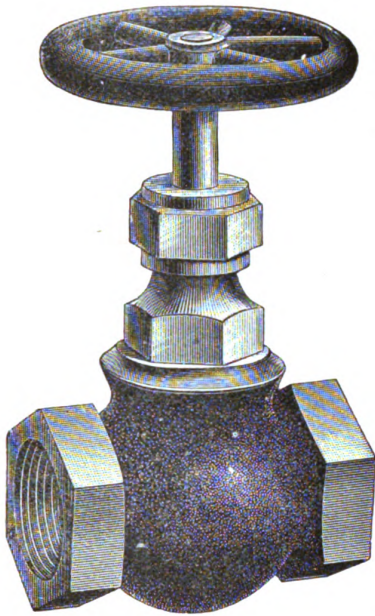


FIG. 60—SCREWED.

ANGLE VALVE.

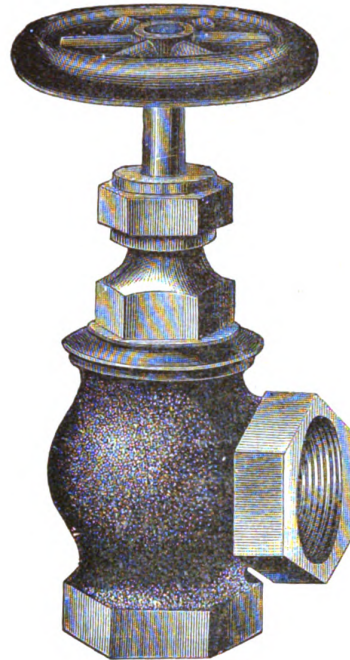


FIG. 61—SCREWED.

SIZE..	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Globe and Angle.....	60	60	75	1 00	1 35	1 80	2 80	3 90	5 90	11 25	16 00

JENKINS' GLOBE VALVE.

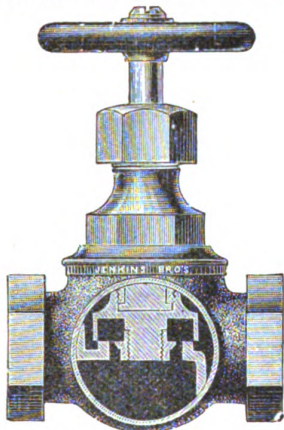


FIG. 62—SCREWED.

ASBESTOS DISC GLOBE VALVE.

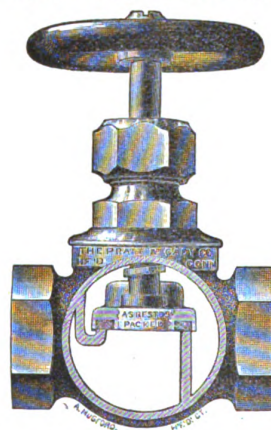


FIG. 63—SCREWED.

SIZE .....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Jenkins' Globe and Angle.....	1 10	1 25	1 60	2 20	2 80	4 00	5 50	8 00	15 75	22 00
Asbestos Disc Globe and Angle.....	1 10	1 25	1 60	2 20	2 80	4 00	5 50	8 00	15 75	22 00
Extra Disc for Jenkins' Valves.....	04	05	06	07	08	12	16	24	32	40
Extra Disc for Asbestos Disc Valve.....	06	07	09	10	12	18	25	36	48	60

RICHMOND, VIRGINIA.

## BRASS VALVES.

HORIZONTAL CHECKS.

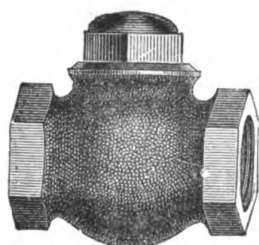


FIG. 64—SCREWED.

VERTICAL CHECKS.

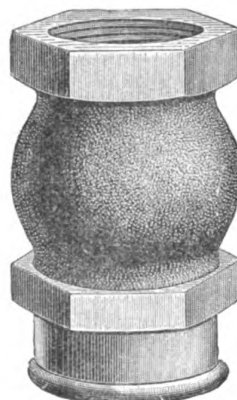


FIG. 65—SCREWED.

SIZE.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Checks, Figs. 64 and 65.....	50	50	60	85	1 15	1 55	2 30	3 25	5 20	10 00	14 00

JENKIN'S HORIZONTAL CHECK.

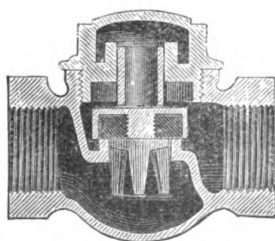


FIG. 66—SCREWED.

STRAIGHTWAY CHECK.

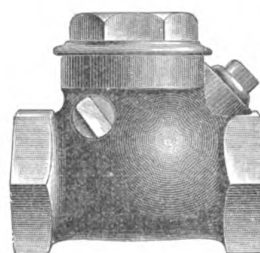


FIG. 67—SCREWED.

SIZE.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Jenkins' Check.....	1 10	1 20	1 30	1 90	2 60	3 60	5 00	7 50	13 50	20 50
Straightway Check.....	1 25	1 25	1 30	1 75	2 25	3 25	4 25	6 25	11 50	16 00

RICHMOND, VIRGINIA.



## BRASS AND IRON COCKS.

## STEAM COCKS.

Brass.

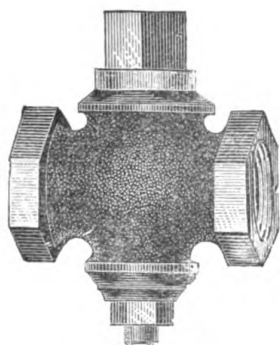


FIG. 68—SCREWED.

## ASBESTOS PACKED COCK.

Iron.



FIG. 69—SCREWED.

SIZE.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Steam Cocks.....	70	75	1 10	1 50	2 25	3 75	4 80	7 25	14 00	20 00
Asbestos Packed Cocks.....	1 30	1 45	1 60	2 10	2 50	3 50	4 75	7 00	12 00	18 00

## SERVICE COCKS.

Brass.

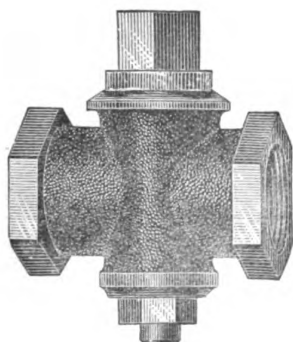


FIG. 70—SCREWED.

## METER COCKS.

Brass—Square Head.

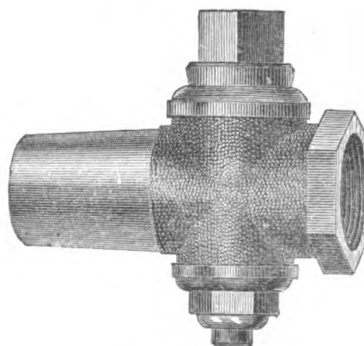


FIG. 71—SCREWED.

SIZE.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Service Cocks, Square or Flat Head....	55	65	75	1 00	1 40	2 20	3 00	5 00	10 00	15 00
Meter Cocks, Square or Flat Head.....	60	70	85	1 20	1 70	2 60	3 60	5 75		

RICHMOND, VIRGINIA.

## TEE HANDLE STOP COCKS--ROUGH.

IRON PIPE.

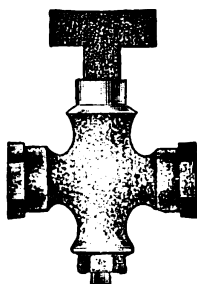


FIG. 72.

LEAD PIPE.

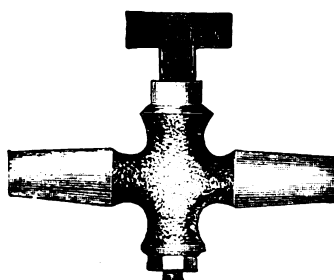


FIG. 73.

SIZE.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Fig. 72, Price Per Doz.....	10 00	13 00	17 00	21 00	31 00
" with Waste.....	11 00	14 00	18 00	22 50	33 00
Fig. 73, Price Per Doz.....	9 00	12 00	15 00	19 00	28 00
" with Waste.....	10 00	13 00	16 00	20 50	30 00

## LEVER HANDLE STOP COCKS--ROUGH.

IRON PIPE.

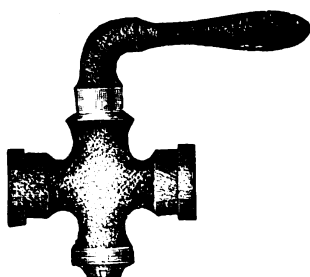


FIG. 74.

LEAD PIPE.

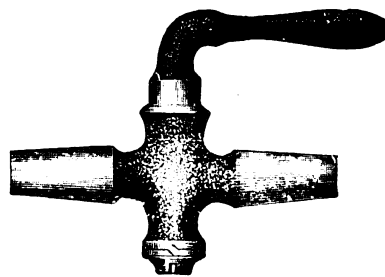


FIG. 75.

SIZE.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Fig. 74, Price Per Doz.....	8 00	10 00	13 00	17 00	21 00	31 00
" with Waste.....	9 00	11 00	14 00	18 00	22 50	33 00
Fig. 75, Price Per Doz.....	7 00	9 00	12 00	15 00	19 00	28 00
" with Waste.....	8 00	10 00	13 00	16 00	20 50	30 00

RICHMOND, VIRGINIA.

## COMPRESSION BIBBS.

## COMPRESSION PLAIN BIBB.

For Iron Pipe.

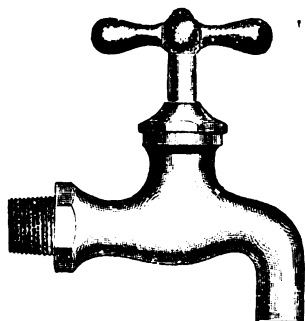


FIG. 76.

## COMPRESSION HOSE BIBB.

For Iron Pipe.

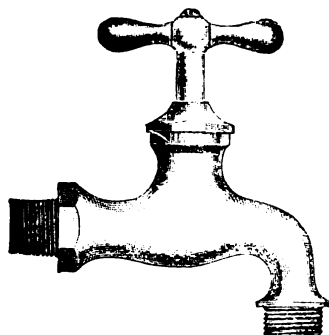


FIG. 77.

Size .....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$
Compression Bibb, Finished, per doz.....	10 00	11 00	13 00	20 00	37 00	56 00	86 00
"    "    Rough, " .....	9 50	10 50	12 00	19 00	33 00	48 00	74 00
"    Hose Bibb, Finished, " .....		12 00	14 00	22 00	40 00	60 00	
"    "    "    Rough, " .....		11 50	13 00	21 00	36 00	52 00	

## COMPRESSION PLAIN BIBB.

For Lead Pipe.

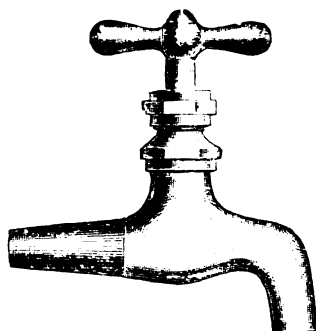


FIG. 78.

## COMPRESSION HOSE BIBB.

For Lead Pipe.

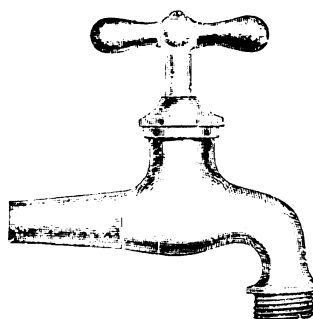


FIG. 79.

Size .....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$
Fig. 78 { Finished, per doz.....	9 00	10 00	12 00	18 00	34 00	52 00	80 00
{ Rough, " .....	8 50	9 50	11 00	17 00	30 00	44 00	68 00
Fig. 79 { Finished, " .....	10 00	11 00	13 00	20 00	37 00	56 00	80 00
{ Rough, " .....	9 50	10 50	12 00	19 00	33 00	48 00	74 00

RICHMOND, VIRGINIA.

## GAUGE COCKS.

## COMPRESSION GAUGE COCK.

Wood Wheel.

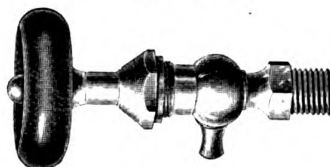


FIG. 80.

Size Pipe Thread.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
Wood Handle, Plain, price each.....	95	1 00	1 10
“ with Stuffing Box, price each.....	1 10	1 15	1 25

## REGESTER'S PATENT GAUGE COCK.



FIG. 81.

Size Pipe Thread.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
Price each.....	1 00	1 00	1 10

## ROBERTS' DUPLEX GAUGE COCK.

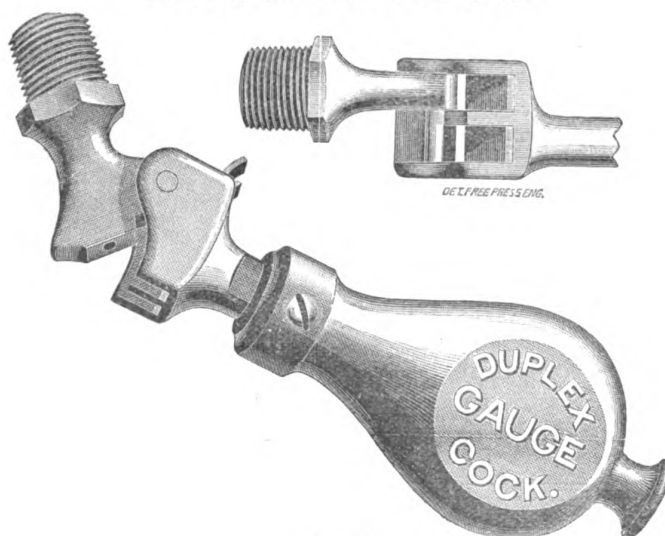


FIG. 82.

$\frac{3}{8}$ or $\frac{1}{2}$ inch.....	Price, \$1.00
$\frac{3}{4}$ inch.....	“ 1.10

Guaranteed for 200 lbs. pressure.

RICHMOND, VIRGINIA.



## WATER GAUGES.



FIG. 83.

No. 0.	Finished Round Body with	$\frac{1}{2}$ x 10	Glass	$\frac{3}{8}$ Pipe Thread.....	\$3 00
No. 1.	“ “ “ “	$\frac{5}{8}$ x 11	“ $\frac{1}{2}$ “ “ .....	4 00	
No. 2.	“ “ “ “	$\frac{3}{4}$ x 14	“ $\frac{3}{4}$ “ “ .....	5 00	

## "SIMPLEX" GLASS TUBE CUTTER.

PRICE, 50 CENTS EACH.



FIG. 84.

## SCOTCH GAUGE GLASSES.

FOR WATER GAUGES.

LENGTH .....	10	11	12	13	14	15	16	17	18	19	20	22	24
$\frac{1}{2}$ and $\frac{3}{8}$ , each .....	40	40	45	45	50	55	60	65	70	75	80	90	1 00
$\frac{3}{4}$ " .....	55	55	55	55	60	60	65	70	75	80	85	95	1 05
1 inch, " .....	90	90	90	90	90	90	90	95	1 00	1 10	1 25	1 50	2 00

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## LUBRICATORS.

VALVE LUBRICATOR.

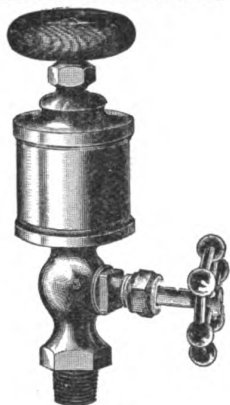


FIG. 85.

Number .....	2	3	4	9
Pipe Thread.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Diameter Bowl.....	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2 $\frac{1}{2}$
Price each.....	2 20	2 40	2 60	3 75

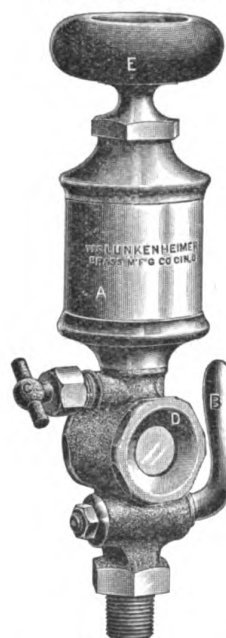
VALVE LUBRICATOR,  
With Sight Feed.

FIG. 86.

Number .....	1	2	3	4	5
Capacity—Pints....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1
Pipe Thread .....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Price each.....	4 00	5 00	6 00	8 00	10 00

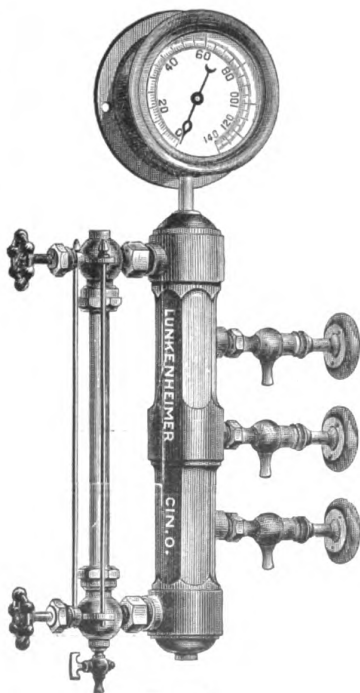


FIG. 87.

## COMBINATION WATER COLUMNS.

No. 1, 12" Centres, $\frac{1}{2}$ " Connections.....	\$2 75
No. 2, 16" " $\frac{3}{4}$ " " .....	4 25
No. 3, 19" " 1" " .....	8 00

(Prices are for Columns only.)

No. 1 Column, complete.....	15 00
No. 2 " " .....	20 00
No. 3 " " .....	25 00

RICHMOND, VIRGINIA.

## OIL CUPS.

ADJUSTABLE OIL CUP.

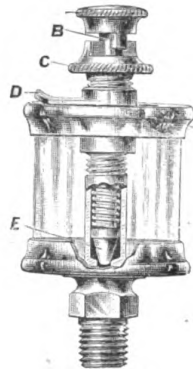


FIG. 88.

ADJUSTABLE SIGHT-FEED OIL CUP.

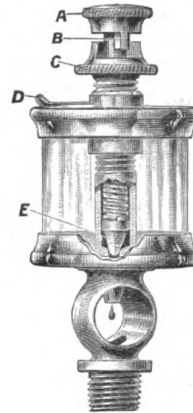


FIG. 89.

Number .....	82	83	84	85
Diameter of Glass.....	1½"	1½"	1¾"	2"
Height of Glass.....	1½"	1¾"	1½"	1¾"
Capacity .....	½ oz.	¾ oz.	1 oz.	2 oz.
Pipe Thread.....	½"	¾"	¾"	¾"
Price, each.....	\$0 85	\$1 00	\$1 30	\$1 60

Number .....	183	184	185	186
Diameter of Glass.....	1½"	1¾"	2"	2¼"
Height of Glass.....	1½"	1½"	1¾"	2½"
Capacity .....	¾ oz.	1 oz.	2 oz.	3 oz.
Pipe Thread.....	½"	¾"	¾"	¾"
Price, each.....	\$1 75	\$2 00	\$2 25	\$2 75

## DETROIT SELF-FEED LUBRICATORS.

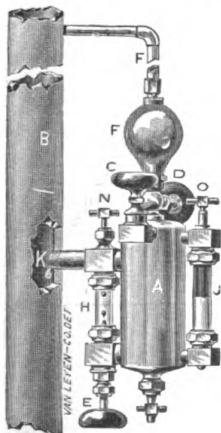


FIG. 90.

Size .....	½ Pint.	½ Pint.	1 Pint.	1 Quart.	½ Gallon.
Price, each.....	17 00	22 00	30 00	45 00	60 00

## SIZES OF GLASSES USED.

Sight-Feed .....	5/8 x 2	3/4 x 3	3/4 x 3	3/4 x 3 1/4	3/4 x 3 1/4
Gauge .....	5/8 x 2	5/8 x 3 1/4	5/8 x 4 1/8	5/8 x 4 3/8	5/8 x 6 3/8

RICHMOND, VIRGINIA.

## LUNKENHEIMER GLASS OIL CUPS.



FIG. 91.

AUTOMATIC NEEDLE-VALVE ROD CUP.

Number.....	1	1½	2	3	4
Outside Diam., inches,	1½	1¾	2	2½	2¾
Pipe Thread..... inch	½	½	¾	¾	¾
Finished Brass.....each	1 50	2 00	2 50	3 00	4 00

"PIONEER" SLIDE-TOP CUP.

Number.....	000	00	0	1	1½	2	3	4	5	6
Outside Diam of Glass.....in.	1	1½	1¾	1½	1¾	2	2½	2¾	3	3½
Height of Glass.....in.	7/8	1	1½	1¾	1¾	1¾	2½	2¾	3	4
Pipe Thread.....in.	¾	¾	¾	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	70	75	80	1 00	1 25	1 50	1 90	2 40	3 10	4 00
Nickel Plated.....each	80	85	95	1 20	1 50	1 75	2 20	2 75	3 50	4 50



FIG. 92.

"ROYAL" SIGHT-FEED CUP.



FIG. 93.

Number.....	00	0	1	1½	2	3	4	5	6
Outside Diam. of Glass.....in.	1½	1¾	1½	1¾	2	2½	2¾	3	3½
Pipe Thread.....in.	¾	¾	¾	¾	¾	¾	¾	¾	¾
Finished Brass.....each	1 10	1 25	1 50	1 75	2 10	2 55	3 15	3 90	4 80
Nickel Plated.....each	1 20	1 40	1 70	2 00	2 35	2 85	3 50	4 30	5 30

RICHMOND, VIRGINIA.

## OIL CUPS.

PLAIN OIL CUP.



FIG. 94.

NEW PATTERN OIL CUP.

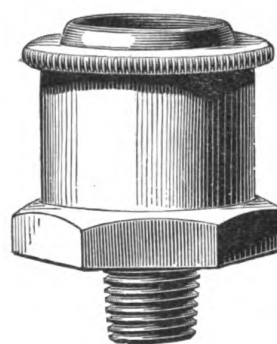


FIG. 95.

Number .....	31½	32	33	34	35	36	37	39	Number .....	19	20	21	21½	21¾
Diameter Body.....	½	¾	1	1¼	1⅝	1½	2	2½	Diameter Body.....	1	1½	1⅝	1⅞	2
Size Pipe Thread...	⅝	¾	1	1¼	1⅝	1½	2	2½	Size Pipe Threads..	⅝	¾	1	1⅝	2
Price, each.....	30	35	40	50	60	90	1 25	2 25	Price, each.....	50	60	75	1 00	2 00

## CYLINDER COCKS.

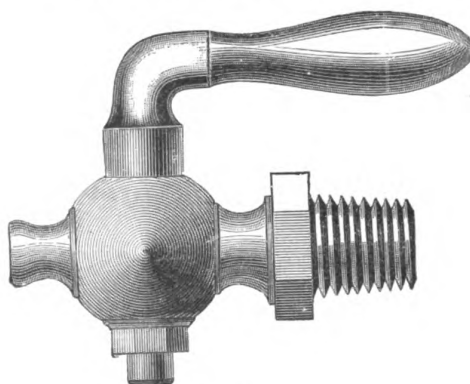


FIG. 96.

Numbers .....	7	8	9	10
Size Pipe Thread.....	¾	1	1½	2
Price, per dozen.....	12 00	13 20	19 00	24 00

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## AIR COCKS.

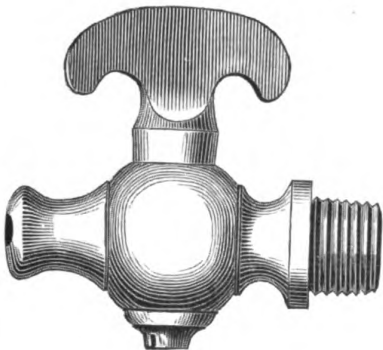


FIG. 97.

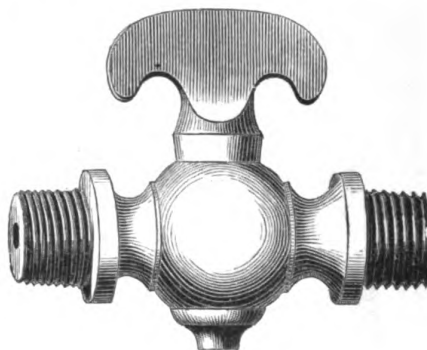


FIG. 98.

SIZE PIPE THREAD.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$
Figure 97, per dozen.....	4 80	7 00	10 20	12 00
" 98, " .....	5 40	6 00	10 80	15 00

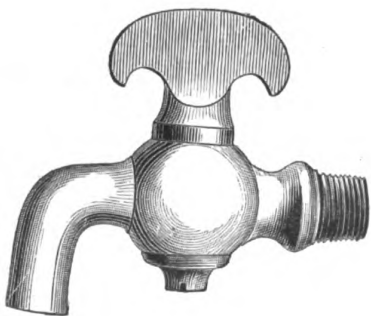


FIG 99.

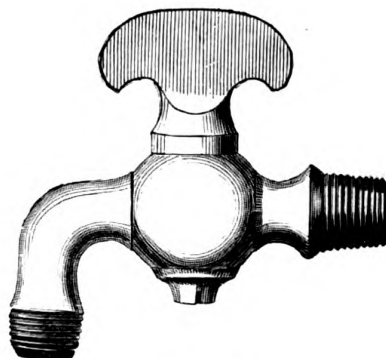


FIG. 100.

SIZE PIPE THREAD.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Figure 99.....	7 80	8 40	12 00
Figure 100.....	8 40	10 80	

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## STEAM GAUGES.

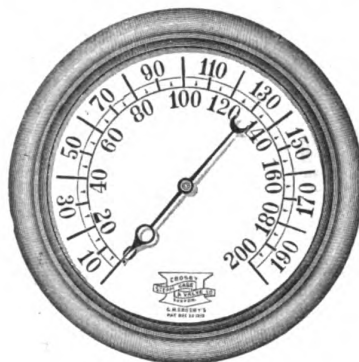


FIG. 101.

SIZE DIAL.....	3	3½	4½	5½	6	6¾	8½	10
Iron Case, each.....	6 00	7 00	8 00	10 00	13 00	16 00	22 00	32 00
Brass Case, each.....	8 00	9 00	10 00	12 00	16 00	20 00	30 00	40 00
Locomotive, each.....					18 00	22 00		

## GONGS.

TRIP GONG.

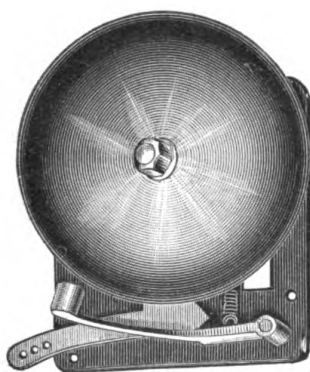


FIG. 102.

LOCOMOTIVE GONG.

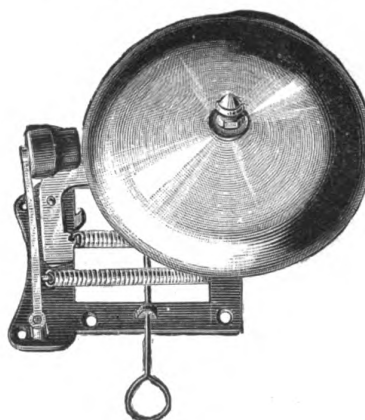


FIG. 103.

SIZE .....	3	4	5	6	7	8	9	10	12
Price Trip Gongs.....	1 25	1 50	2 10	2 75	3 75	5 00	6 50	7 50	13 50
" Locomotive Gongs.....				3 25	4 00	5 25	6 50	7 50	

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## GOVERNORS.

(Lists apply to all makes.)

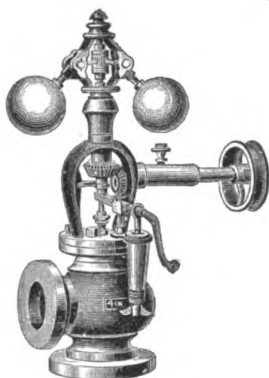


FIG. 104.  
CLASS B, PLAIN.  
(Slow Speed.)

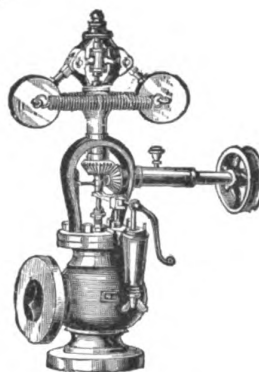


FIG. 105.  
CLASS B, SPRING.  
(Higher Speed.)

Size of Governor, Diameter of Opening.	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Price Class B, Plain.....	16 00	18 00	20 00	22 00	25 00	30 00	35 00	40 00	50 00	60 00	71 00	83 00	94 00
Price Class B, Spring.....	18 00	20 00	22 00	25 00	29 00	34 00	40 00	45 00	58 00	69 00	81 00	94 00	106 00

CLASS A IS WITH AUTOMATIC STOP; CLASS B WITHOUT.

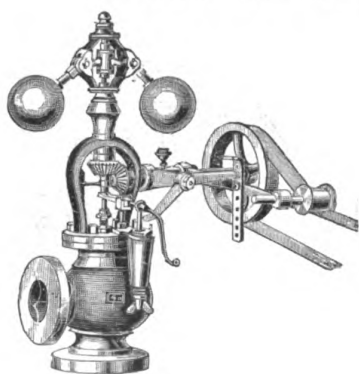


FIG. 106.  
CLASS A, PLAIN.  
(Slow Speed.)

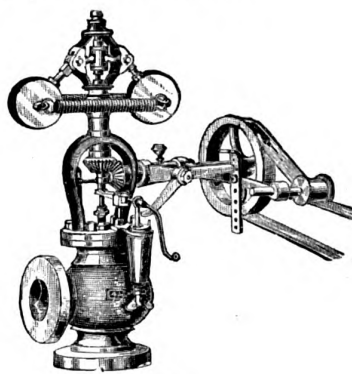


FIG. 107.  
CLASS A, SPRING.  
(Higher Speed.)

Size of Governor, Diameter of Opening.	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Price Class A, Plain.....	29 50	36 00	42 00	48 00	59 00	71 00	83 00	96 00	109 00
Price Class A, Spring.....	33 50	40 00	47 00	53 00	67 00	80 00	93 00	107 00	121 00

Can furnish any make Governor desired.

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## SAFETY VALVES.

## POP SAFETY VALVE.

For Portable, Hoisting and Steam Fire Engines.



FIG. 108.

## LOCOMOTIVE

POP SAFETY VALVE.



FIG. 109.

Size.	1	1½	1½	2	Size.	2	2½	2½	3
For Boilers.....	10 H. P.	10 to 20 H. P.	20 to 30 H. P.	30 to 40 H. P.	Price each.....	30 00	40 00	50 00	65 00
Price each.....	12 00	15 00	20 00	30 00	Price Perforated Caps.....	3 00	4 00	4 00	5 00

## LOCOMOTIVE TORCH.



FIG. 110.

Price, each..... \$1 75

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## STEAM WHISTLES.

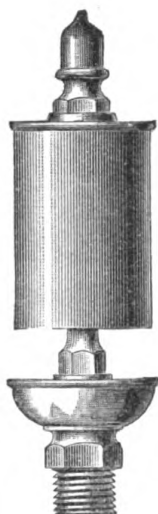


FIG. 111.

Diameter Bell.	Size for Iron Pipe.	Figure 111.	Figure 112.
2	$\frac{1}{2}$	3 25	4 75
2½	$\frac{3}{4}$	4 50	6 50
3	1	6 00	8 00
3½	1	8 50	11 00
4	1¼	11 00	14 00
5	1½	18 00	22 00
6	2	24 00	30 00
8	2½	65 00	80 00
10	2½	125 00	175 00

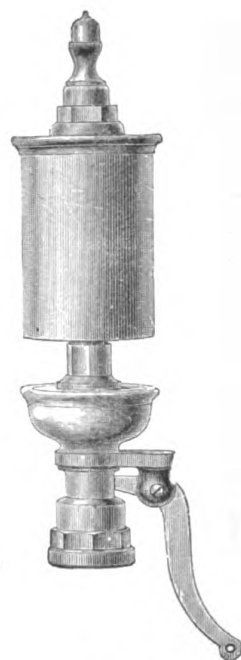


FIG. 112.

## PATENT CHIMES.

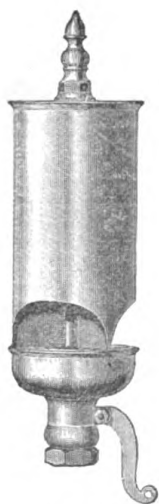


FIG. 113.

WITH UPRIGHT VALVE.

Diameter of Bell.	Size for Iron Pipe.	Figure 113, Pat. Chimes.	Figure 114, Pat. Chimes.
2	$\frac{1}{2}$	6 50	7 00
3	$\frac{3}{4}$	9 50	11 00
4	1	16 00	18 00
5	1¼	25 00	28 00
6	1½	35 00	38 00
8	2	85 00	90 00
10	2½	130 00	140 00

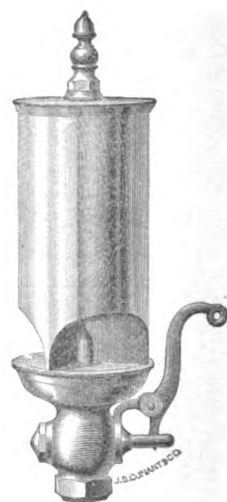


FIG. 114.

WITH SIDE VALVE.

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## OILERS.

ZINC.

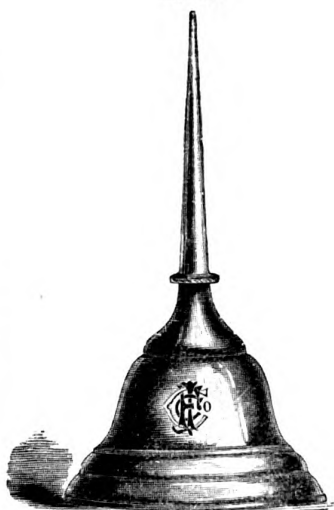


FIG. 119.

COPPER.

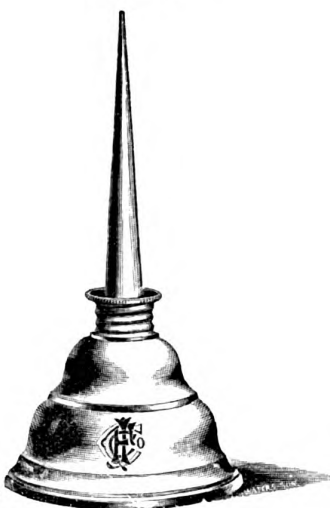


FIG. 120.

BRASS.

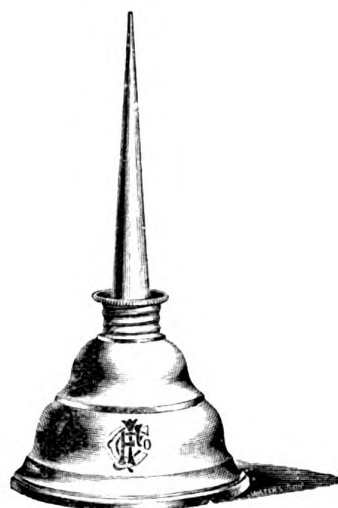


FIG. 121.

Numbers .....	00	0	1	2	3	4	5	6
Zinc, price, per dozen.....	1 00	1 25	1 50	2 00	2 25	2 75	3 50	4 50
Copper, " " .....		2 50	2 75	3 75	4 25	5 00	6 25	8 00
Brass, " " .....		2 25	2 50	3 50	4 00	4 75	6 00	7 50

ENGINE.

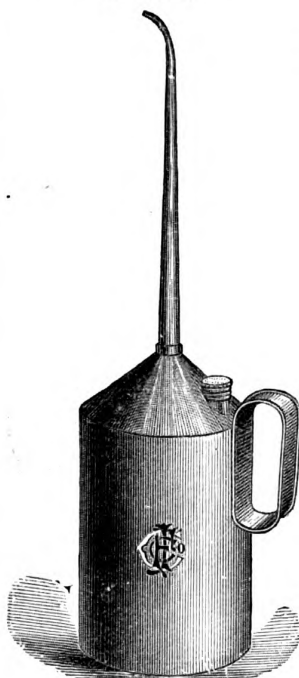


FIG. 122.

OIL CAN FILLER.



FIG. 123.

Price, 1 Pint.....	\$4 00 per dozen.
Price, 1 Quart.....	6 00 "

MALLEABLE IRON.

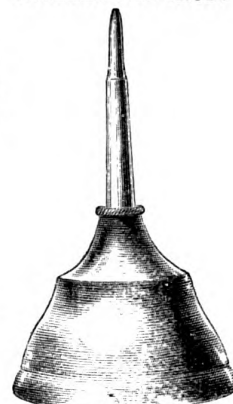


FIG. 124.

Numbers..	1	2	3
Price, doz.	3 60	4 00	4 40

Numbers.....	Pint.	Quart.
Price, dozen.....	3 75	4 50

## OILERS.

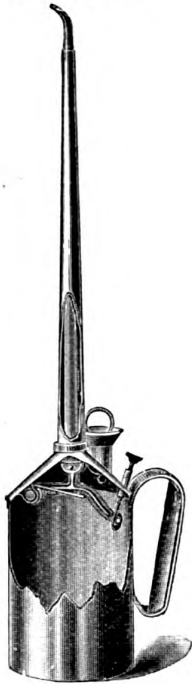
ENGINEERS' "PERFECTION"  
DRIP OILERS.

FIG. 125.

	$\frac{1}{2}$ Pint.	1 Pint.	1 Quart.
Price, per dozen..	6 50	10 00	12 00

ENGINEERS' "PERFECTION" HAND OILERS.

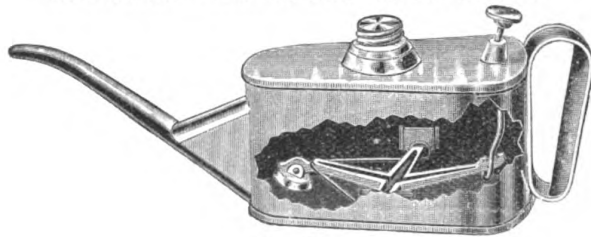


FIG. 126.

	$\frac{1}{2}$ Pint.	1 Pint.	1 Quart.
Price, per dozen.....	8 00	9 00	12 00

## NASON STEAM TRAP.

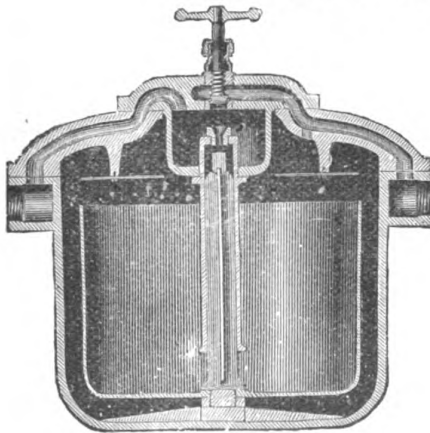


FIG. 127.

Number.....	1	2	3	4	5
Each .....	16 00	20 00	27 50	42 50	70 00
Pipe Connection	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "
Drains ..... feet,	1,000	2,700	4,200	6,000	10,000

RICHMOND, VIRGINIA.



## INSPIRATORS.

THE HANCOCK INSPIRATOR  
For Feeding Stationary Boilers.

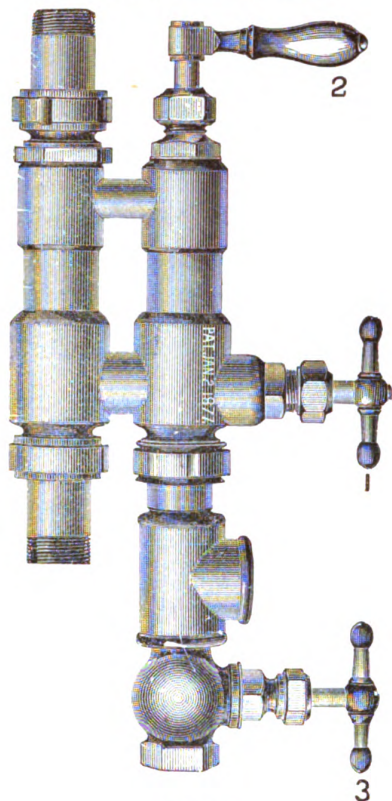


FIG. 128.

No. of Inspirator.	Suction and Feed Pipe.	Steam Pipe.	Gall. per hour, 60 lbs. press.	Horse Power.	Price.
No. 7 $\frac{1}{2}$			60	8	\$ 16 00
No. 8 $\frac{3}{4}$			90	12	18 00
No. 10			120	16	20 00
No. 12 $\frac{1}{2}$			220	30	25 00
No. 15			300	40	30 00
No. 17 $\frac{1}{2}$	1		420	56	40 00
No. 20	1		540	72	45 00
No. 22 $\frac{1}{2}$	1 $\frac{1}{2}$	1	720	96	55 00
No. 25	1 $\frac{1}{2}$	1	900	120	60 00
No. 30	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1260	168	75 00
No. 35	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1740	230	90 00
No. 40	2	1 $\frac{1}{2}$	2230	298	110 00
No. 45	2	1 $\frac{1}{2}$	2820	376	125 00
No. 50	2 $\frac{1}{2}$	2	3480	464	150 00
No. 55	2 $\frac{1}{2}$	2	3650	600	175 00

The capacity of these machines is estimated with a four-foot lift and 60 lbs. steam. With a greater lift the capacity will be proportionately reduced.

THE HANCOCK  
LOCOMOTIVE INSPIRATOR.

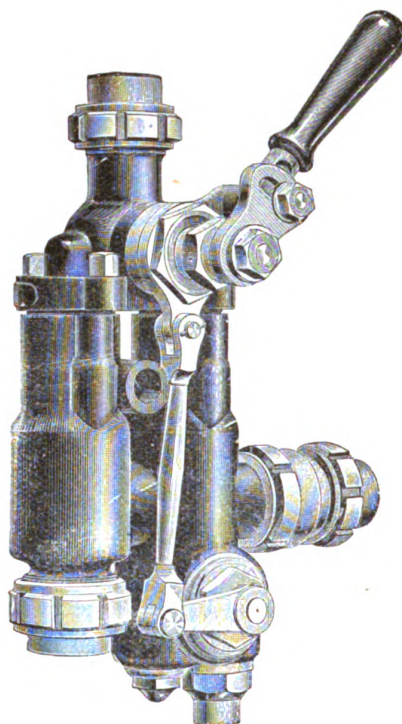


FIG. 129.

Number.	Suction Pipe.	Steam Pipe.	Feed Pipe.	Price.
10				\$ 30 00
12 $\frac{1}{2}$				32 50
15				35 00
17 $\frac{1}{2}$	1		1	40 00
20	1		1	50 00
22 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	65 00
25	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	70 00
27 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	75 00
30	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	85 00
32 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	90 00
35	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	100 00
37 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	110 00
40	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	120 00

## INJECTORS.

## PENBERTHY AUTOMATIC INJECTOR.

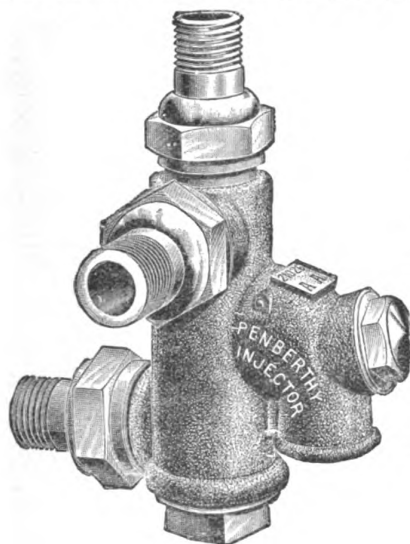


FIG. 130.

Size.	Price.	Pipe Connections.	Capacity per Hour. 1 to 6 ft. lift, 45 to 75 lbs. Pressure.		Horse Power
			MAXIMUM.	MINIMUM.	
OO.....	\$ 16 00	$\frac{3}{8}$ in.	80 gal.	55 gal.	4 to 8
A.....	18 00	"	120 "	70 "	8 to 15
AA.....	20 00	"	165 "	90 "	15 to 20
B.....	25 00	"	250 "	135 "	20 to 30
BB.....	30 00	"	340 "	165 "	30 to 40
C.....	40 00	1 "	475 "	300 "	40 to 60
CC.....	45 00	1 "	575 "	350 "	60 to 72
D.....	55 00	1 $\frac{1}{4}$ "	750 "	400 "	72 to 93
DD.....	60 00	1 $\frac{1}{2}$ "	920 "	500 "	93 to 120
E.....	75 00	1 $\frac{3}{4}$ "	1300 "	700 "	120 to 160
EE.....	90 00	1 $\frac{1}{2}$ "	1740 "	900 "	160 to 220
F.....	110 00	2 "	2270 "	1100 "	220 to 290
FF.....	125 00	2 "	2800 "	1400 "	290 to 350

## THE CHIEF AUTOMATIC INJECTOR.

Size.	Price.	Gals. per hr., 60 lbs. press. 4 ft. lift.	Size of Pipe Con- nections.	Horse Power
No. 2 $\frac{1}{2}$ .....	\$ 16 00	80	$\frac{3}{8}$ in.	4 to 8
No. 3.....	18 00	120	"	8 to 15
No. 3 $\frac{1}{2}$ .....	20 00	165	"	15 to 20
No. 4.....	25 00	250	"	20 to 30
No. 4 $\frac{1}{2}$ .....	30 00	340	"	30 to 40
No. 5 $\frac{1}{2}$ .....	45 00	575	1 "	40 to 72
No. 6 $\frac{1}{2}$ .....	60 00	900	1 $\frac{1}{4}$ "	72 to 120
No. 7.....	75 00	1,300	1 $\frac{1}{2}$ "	120 to 160
No. 7 $\frac{1}{2}$ .....	90 00	1,740	1 $\frac{3}{4}$ "	160 to 220
No. 8.....	110 00	2,270	2 "	220 to 290
No. 8 $\frac{1}{2}$ .....	125 00	2,800	2 "	290 to 350

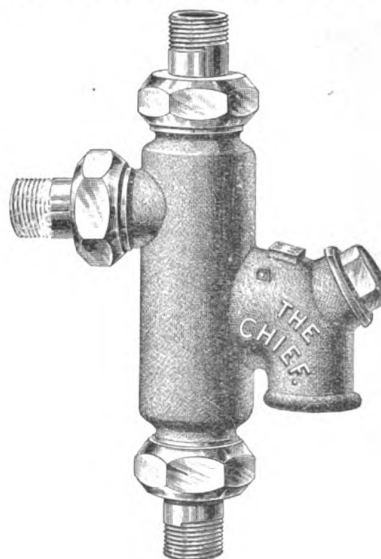


FIG. 131.

RICHMOND, VIRGINIA.

## THE X-L EJECTOR.



FIG. 132.

SIZE.	STEAM CONNECTIONS.	SUCTION AND DELIVERY.	CAPACITY PER HOUR 65 LBS. STEAM.	PRICE EACH.	STRAINERS.
XL No. 1, Brass.....	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	250 Gallons.	\$ 8 00	\$ 50
" " 2, ".....	"	"	500 "	10 00	75
" " 3, ".....	"	1 "	960 "	15 00	1 00
" " 4, ".....	1 "	$1\frac{1}{4}$ "	1300 "	20 00	1 25
" " 5, ".....	1 "	$1\frac{1}{2}$ "	2000 "	25 00	1 50
" " 6, ".....	$1\frac{1}{2}$ "	2 "	3500 "	35 00	1 75
" " 7, ".....	$1\frac{1}{2}$ "	$2\frac{1}{2}$ "	5000 "	40 00	.....
" " 8, ".....	2 "	3 "	8000 "	50 00	.....

Nos. 7 and 8 Iron Bodies and Delivery Connection, balance brass. Capacity based on 4 ft. lift.

## HANCOCK EJECTOR.

FOR RAISING WATER OR HOT LIQUIDS.



FIG. 133.

No.	SUCTION AND FEED.	STEAM.	GALLONS PER HOUR.	PRICE.
10.....	$\frac{1}{2}$ inch.	$\frac{3}{4}$ inch.	120	\$ 7 00
15.....	"	"	300	10 00
20.....	1 "	"	540	15 00
25.....	$1\frac{1}{4}$ "	"	900	20 00
30.....	$1\frac{1}{2}$ "	"	1260	25 00
35.....	$1\frac{1}{2}$ "	"	1743	30 00
40.....	2 "	1 "	2330	35 00
45.....	2 "	1 "	2876	40 00
50.....	$2\frac{1}{2}$ "	$1\frac{1}{4}$ "	3480	45 00
55.....	$2\frac{1}{2}$ "	$1\frac{1}{2}$ "	3600	50 00
60.....	3 "	$1\frac{1}{2}$ "	4000	55 00
65.....	3 "	$1\frac{1}{2}$ "	4520	60 00
70.....	$3\frac{1}{2}$ "	2 "	5200	65 00
75.....	$3\frac{1}{2}$ "	2 "	6000	70 00
100.....	4 "	2 "	10620	75 00
110.....	4 "	2 "	12900	80 00
120.....	6 "	3 "	15360	85 00

Larger sizes and Ejectors for handling hot liquors furnished to order.

RICHMOND, VIRGINIA.



## PUMPS.

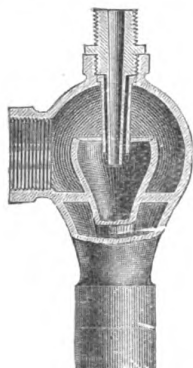
COLL'S  
PATENT EJECTOR.

FIG. 134.

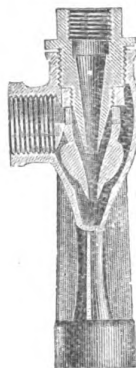
COLL'S  
PATENT DEFIANCE PUMP

FIG. 135.

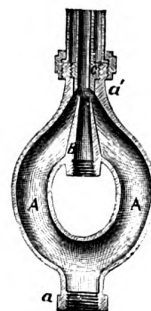
McFEELEY  
JET PUMP.

FIG. 136.

COLL'S PATENT EJECTOR (FIG. 134.)

NON-FREEZING.

GAS PIPE SIZE ..... INCHES...	1	1½	1½	2	2½	3	4	5	6
Delivery per hour in gallons, at 40 lbs. steam pressure .....	890	1250	1960	3200	5125	8050	9800	13000	16000
Diameter of Steam Pipe.....	¾	1	1½	1½	1½	2	2½	3	3½
Diameter of Delivery Pipe.....	1	1½	1½	2	2½	3	4	5	6
PRICES—Iron.....	10 00	15 00	20 00	24 00	28 00	32 00	52 00	72 00	96 00
Strainers for above.....	1 00	1 00	1 50	1 50	2 00	2 50	4 00	5 00	6 00

COLL'S PATENT DEFIANCE PUMP (FIG. 135.)

GAS PIPE SIZE..... INCHES...	¾	1	1½	1½	2	2½	3	4	5	6
Delivery per hour in gallons at 50 lbs. steam pressure, 75 feet height.....	280	350	850	1400	2300	2800	3500	6000	13000	16000
Diameter of Steam Pipe.....	¾	1	1½	1½	2	2½	3	4	5	6
Diameter of Delivery Pipe.....	1	1½	1½	2	2½	3	4	5	6	6
PRICES—Brass.....	12 00	16 00	25 00	35 00	50 00	65 00	85 00	100 00	150 00	200 00

Strainers for above accompany each Pump without extra charge. A higher pressure of steam will give a corresponding increased result. Absolutely non-freezing.

McFEELEY JET PUMP (FIG. 136.)

GAS PIPE SIZE..... INCHES...	¾	1	1½	1½	2
Delivery per hour in gals., at 40 lbs. steam pressure,	480	700	1000	1560	2800
Diameter of Steam Pipe.....	¾	1	1½	1½	2
Diameter of Delivery Pipe.....	1	1½	1½	2	2
PRICES—Iron.....	8 00	10 00	12 00	14 00	16 00
Strainers for above.....	1 00	1 00	1 00	1 50	1 50

For Steam Pumps, see special catalogue.

RICHMOND, VIRGINIA.

PITCHER PUMP.

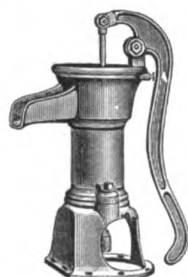


FIG. 137.

No.	Diam. Cyl.	Suction.	Price.
1	2½ in.	1 in.	\$4 25
2	3 " "	1½ " "	4 75
3	3½ " "	1½ " "	5 25
4	4 " "	1½ " "	5 75
5	4½ " "	1½ " "	6 25

PUMPS.  
FORCE PUMP  
For Shallow Wells.

FIG. 138.

No.	Diam. Cyl.	Suction.	For Wells.	Set Length	Price.
4	3 in.	1½ in.	26 ft.	5½ ft.	\$14 00
6	3½ " "	1½ " "	26 " "	5½ " "	16 00

DEEP WELL PUMP.



FIG. 139.

Complete.	Pipe.	Stroke.	Price.
Standard...	1½ in.	7 in.	\$10 00

HYDRAULIC RAM.

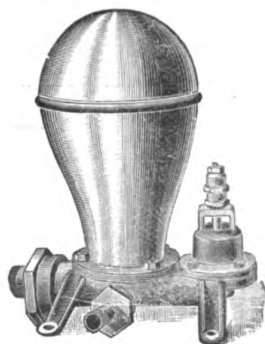


FIG. 140.

No.	Gallons water furnished per minute to Ram.	Length of Drive Pipe.	CALIBRE PIPES.		Price.
			Drive.	Dis.	
2	1 to 2	50 to 75 ft.	¾ in.	½ in.	\$ 9 00
3	2 to 4	50 to 75 ft.	1 " "	¾ " "	11 00
4	3 to 7	50 to 75 ft.	1½ " "	1 " "	14 00
5	6 to 10	50 to 75 ft.	2 " "	1½ " "	22 00
6	11 to 25	50 to 75 ft.	2½ " "	1½ " "	40 00
7	25 to 45	50 to 75 ft.	3 " "	1½ " "	75 00
8	45 to 75	50 to 75 ft.	4 " "	2 " "	125 00

CENTRIFUGAL PUMP.

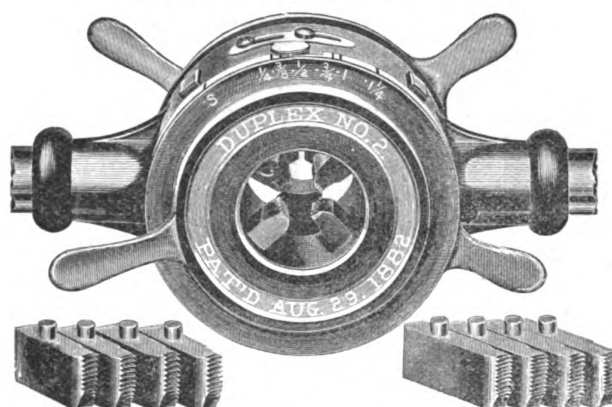


FIG. 141.

No. ....	1¾	2	2½	3	3½	4	6	8	10	12
Iron.....	\$40	\$60	\$70	\$75	\$95	\$110	\$170	\$265	\$330	\$400
Brass ..	90	110	135	150	200	240	360			

## STOCKS AND DIES.

"DUPLEX" DIE STOCK FOR PIPE.



Both Guides and Dies Instantly Adjustable.

FIG. 142.

Numbers.....	1	2	3	3½	4	5
Threads Pipe.....	½ to ¾	¾ to 1½	1 to 2	½ to 2	1½ to 3	2½ to 4
Price, with cut-off.....	\$16 00	\$20 00	\$25 00	\$28 00	\$45 00	\$60 00
Price, without cut-off.....	13 00	17 00	22 00	25 00	40 00	55 00

## Price of Extra Dies

Number .....	1	2	3	3½	4	5
Price, per single set, Right or Left Hand.....	1 50	1 75	2 00	2 00	3 50	4 00

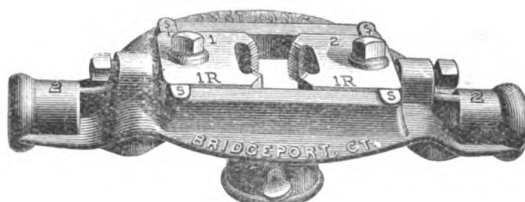
ARMSTRONG'S ADJUSTABLE STOCK AND DIES.  
For Threading Pipe.

FIG. 143.

No. 1 Stock, 4 Pipe Dies, ½" to 1".....	\$ 9 00
No. 2 " 5 " 1" to 1½".....	12 00
No. 3 " 4 " 1½" to 2".....	24 00
No. 4 " 3 " 2" to 2½".....	18 00
No. 5 " 2 " 2½" to 3".....	40 00

For other Goods in this line, see Special Catalogue.

RICHMOND, VIRGINIA.

## STANDARD STOCKS AND DIES. FOR PIPE.

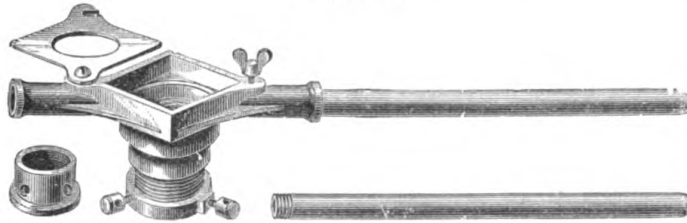


FIG. 144.

No. 1 Stock and Solid Dies, 2½ by ¾, cutting, ¼, ⅜, ½, ¾, 1 inch, complete.....	\$15 00	Without Dies, \$5 00
No. 1½ " " 3 by ¾, " ¾, 1, 1½ inch, " .....	13 50	" 6 00
No. 2 " " 4 by ¾, " 1½, 1½, 2 inch, " .....	20 00	" 9 50

## NEW LIGHTNING SCREW PLATE. FOR PIPE.

Set C, with 5 Dies, Right or Left, ¼ to 1 inch.

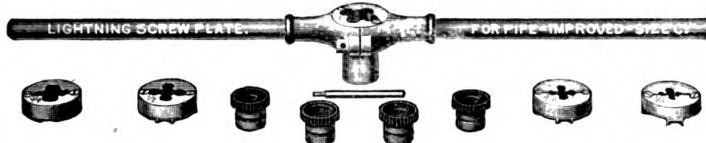


FIG. 145.

¼, ⅜, ½, ¾, and 1 inch. Price complete, as above, in plain case.....	\$12 00
½ inch supplied with this set, extra.....	1 75

Parts separately: Stock, \$3.50; Dies, \$1.50 each; Guides, 25c. each.

Set D, with 3 Sizes, Right or Left, 1½ to 2 inch, Stock with Leader Screw.

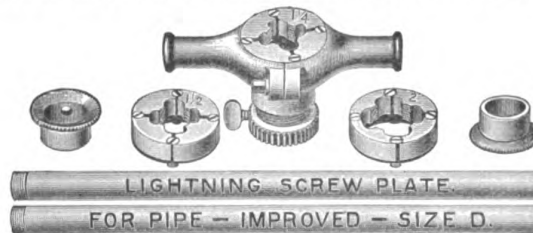


FIG. 146.

Sizes, 1½, 1½ and 2 inch. Price complete, as above, in plain case.....	\$20 00
Size, 1 inch, if ordered with this set (including bushing and guide), extra.....	3 00
Parts separately: Stock, \$7.00; Dies, \$4.00 each; Guides, 50c. each.	
Set C and D combined, with 8 sizes, Right or Left, ¼ to 2 inch (large stock having leader screw). Price, complete, in plain case.....	32 00

For other Goods in this line, see Special Catalogue.

RICHMOND, VIRGINIA.



## FORBES &amp; CURTIS PIPE-CUTTING MACHINES.

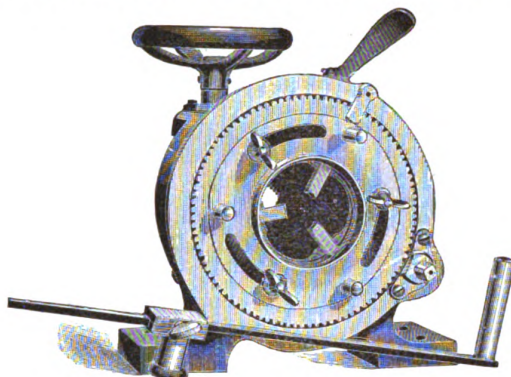


FIG. 147.

No. 1,  $\frac{1}{4}$ " to 2", both Right and Left Hand, \$50 00  
 No. 1 $\frac{1}{2}$ , 1" to 3", R. H., 1" to 2" L. H., 75 00

No. 2 $\frac{1}{2}$  B, 1" to 4", Right Hand, \$110 00  
 No. 2 $\frac{1}{2}$  C, 1" to 4", both R. H. and L. H., 130 00

## SAUNDERS' PIPE-CUTTING MACHINES.

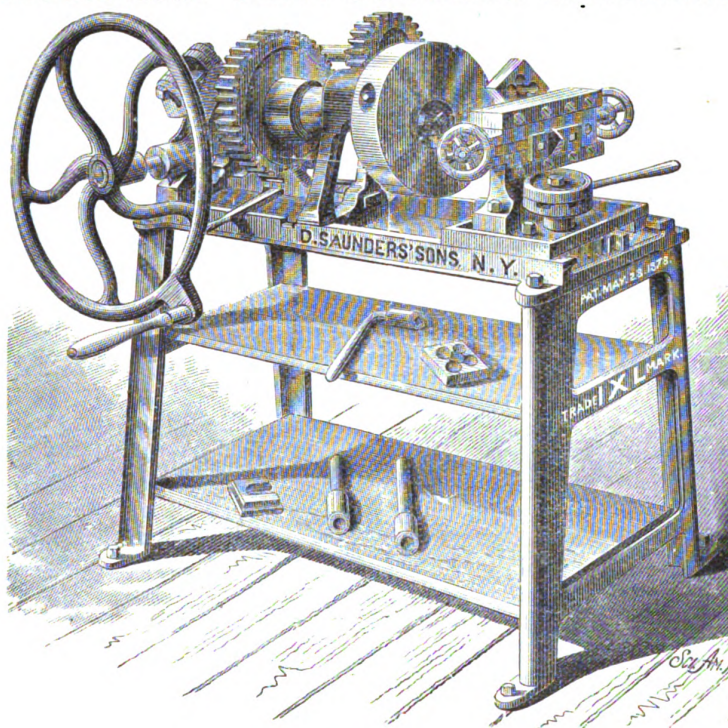


FIG. 148.

I X L HAND MACHINE.

Cuts from  $\frac{1}{4}$ " to 2" inclusive, with sockets for making nipples from  $\frac{1}{4}$ " to 2", complete.....\$90 00  
 Same machine for power, complete.....110 00

For other goods in this line, see special catalogue.

RICHMOND, VIRGINIA.

## PIPE DIES.

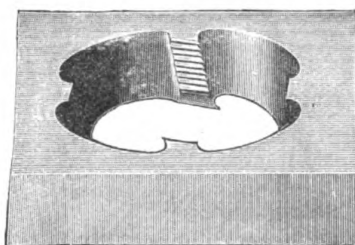


FIG. 149.

Dimensions.....	$\frac{1}{2} \times 2$	$\frac{3}{4} \times 2\frac{1}{2}$	$\frac{3}{4} \times 3$	$\frac{7}{8} \times 4$
Size .....	$\frac{1}{8}, \frac{1}{4}, \frac{3}{8}, \frac{1}{2}$	$\frac{1}{8}, \frac{1}{4}, \frac{3}{8}, \frac{1}{2}, \frac{3}{4}, 1$	$1, 1\frac{1}{4}, 1\frac{1}{2}, 2$	$1, 1\frac{1}{4}, 1\frac{1}{2}, 2$
Price, each.....	1 50	2 00	2 50	3 50

## PIPE TAP.

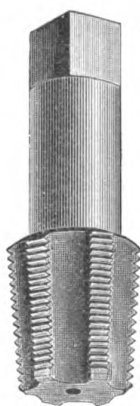


FIG. 150.

## PIPE REAMER.

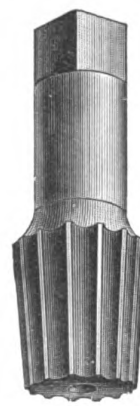


FIG. 152.

## PIPE DRILL.



FIG. 151.

Diameter .....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Taps and Reamers .....	1 12	1 25	1 50	1 87	2 50	3 12	3 75	4 62	6 25	10 50	15 00	22 00	33 00
Pipe Drills.....	75	75	1 00	1 25	1 50	1 75	2 00	2 50	3 00	3 75	4 75	.....	.....

RICHMOND, VIRGINIA.

## PIPE VISES.

SAUNDERS

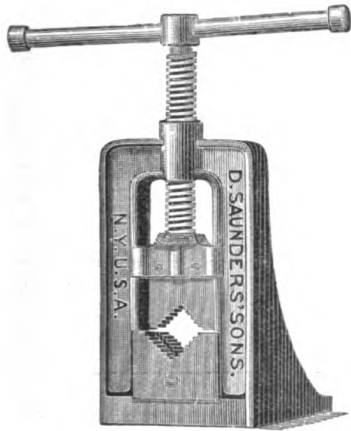


FIG. 153.

MALLEABLE HINGED.

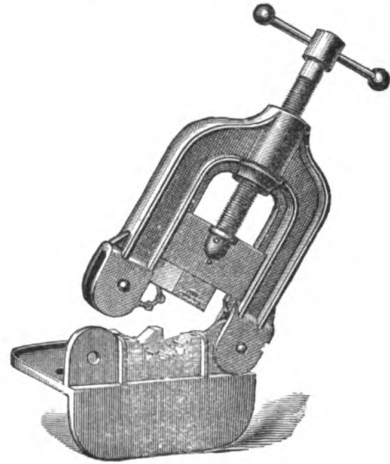


FIG. 154.

Numbers .....	1	2	3
Hold Pipe.....	$\frac{1}{8}$ to 2	$\frac{1}{4}$ to 3	$\frac{1}{2}$ to 4
Price, each .....	10 00	18 00	30 00

Numbers.....	1	2
Hold Pipe.....	$\frac{1}{8}$ to 2	$\frac{1}{4}$ to 2
Price, each .....	10 00	14 00

## COMBINATION VISE.

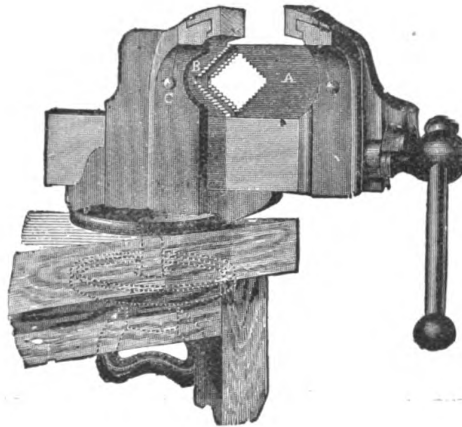


FIG. 155.

No. 1 holds $\frac{1}{8}$ to 2-inch pipe.....	Price, \$16 00
No. 2 holds $\frac{1}{2}$ to 3-inch pipe.....	" 20 00

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## PIPE CUTTERS.

## BARNES' THREE-WHEEL PIPE CUTTER.

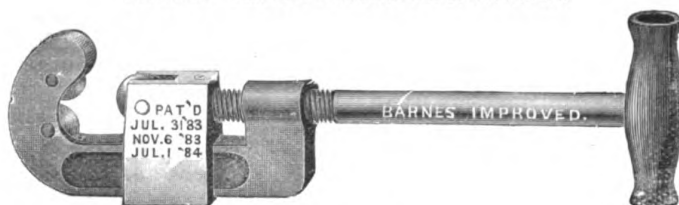


FIG. 156.

Number .....	1	2	3	4	5	6
Cuts Pipe.....	$\frac{1}{8}$ to 1	$\frac{1}{2}$ to 2	$1\frac{1}{2}$ to 3	3 to 4	4 to 6	6 to 8
Each .....	4 50	6 00	10 00	20 00	30 00	40 00
Extra Wheels.....	25	30	40	50	75	75
" Pins.....	10	10	10	15	20	25

## COMSTOCK PIPE CUTTER.

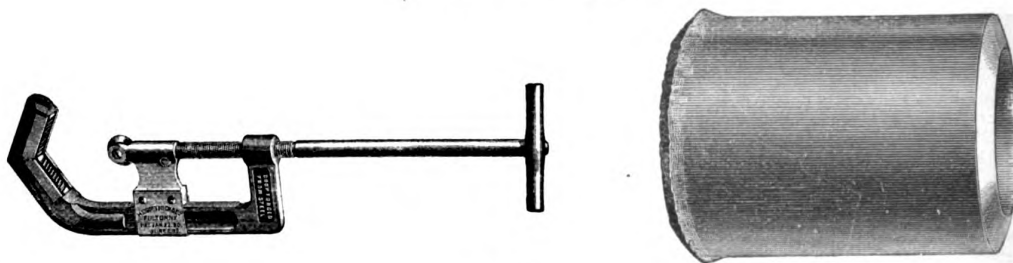


FIG. 157.

No. 1, Cuts from $\frac{1}{8}$ to $1\frac{1}{2}$ inches.....	\$ 4 50
No. 2, " 1 to $2\frac{1}{2}$ " .....	6 00
No. 3, " $1\frac{1}{2}$ to 4 " .....	10 00

No. 1, Cutter Wheel, extra.....	\$ 25
No. 2, " " .....	35
No. 3, " " .....	50

## SAUNDERS' PIPE CUTTER.



FIG. 158.

	Complete Cutters.	Extra Blocks with Wheels.	Extra Cutter Wheels.
No. 1 cuts $\frac{1}{8}$ to 1 inch.....	3 50	1 25	24
No. 2 " 1 to 2 " .....	4 50	1 75	32
No. 3 " 2 to 3 " .....	14 00	3 25	60

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## PIPE TONGS.

BROWN'S ADJUSTABLE PIPE TONGS.

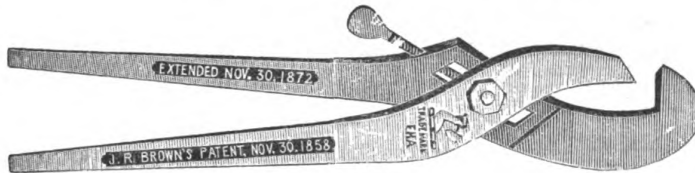


FIG. 159.

Number .....	1	1½	2	3	4	5	6	7
Holds Pipe.....	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{3}{8}$ to 1	$\frac{1}{2}$ to $1\frac{1}{4}$	1 to 2	$1\frac{1}{2}$ to 3	$2\frac{1}{2}$ to 4	3 to 5	4 to 7
Price, each.....	1 30	1 65	2 00	3 00	6 00	11 00	25 00	35 00

JARECKI ADJUSTABLE PIPE TONGS.

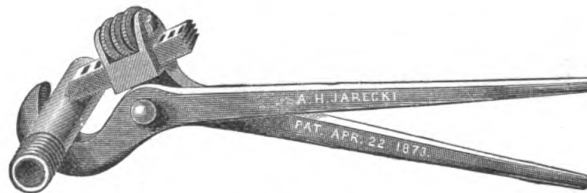


FIG. 160.

Number .....	0	1	2	3	4	5
Holds Pipe.....	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{1}{8}$ to 1	$\frac{1}{4}$ to $1\frac{1}{2}$	$\frac{1}{2}$ to $2\frac{1}{2}$	$\frac{3}{4}$ to $3\frac{1}{2}$	$1\frac{1}{2}$ to 6
Price, each.....	3 00	3 50	4 00	5 00	9 00	16 00
Extra Jaws.....	50	50	80	1 25	1 75	4 00

## BROCK'S CHAIN PIPE WRENCH.



FIG. 161.

Number .....	0	1	2	3	3½	4	5
Price .....	2 50	3 50	5 50	7 50	9 00	11 00	18 00
Holds Pipe.....	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{1}{8}$ to $1\frac{1}{2}$	$\frac{1}{4}$ to $2\frac{1}{2}$	$\frac{3}{4}$ to 4	1 to 6	$1\frac{1}{2}$ to 8	2 to 14
Length.....inches	12½	20	27	37	44	50	64
Weight.....lbs	1½	4½	8	15	20	28	47

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## PIPE WRENCHES.

## "TRIMO" CHAIN PIPE WRENCH.

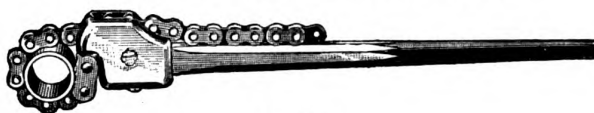


FIG. 162.

Number.....	1	2	3	4	5
Price.....	3 50	5 50	7 50	11 00	18 00
Length in Inches.....	20	27	37	50	64
Size of Pipe.....	1 to 2½	1 to 3½	1½ to 6	1½ to 8	2 to 14
Extra Chains.....	1 00	1 50	2 50	4 00	6 00
Extra Jaws.....	80	1 25	2 00	2 50	3 00

In ordering parts state the size of wrench.

## "TRIMO" PIPE WRENCH

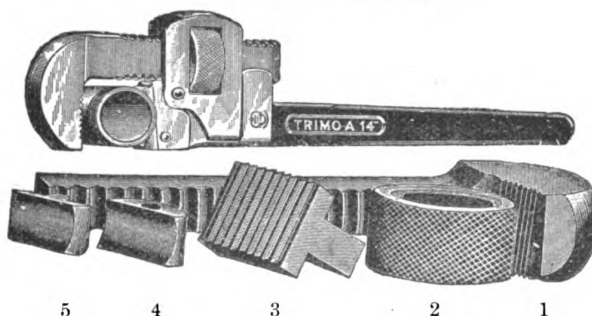


FIG. 163.

Length open, in inches.....	6	8	10	14	18	24	36	48
Takes from.....	½ in wire to ½ in pipe	½ in wire to ¾ in pipe	½ in wire to 1 in pipe	½ in wire to 1½ in pipe	½ in wire to 2 in pipe	½ in wire to 2½ in pipe	½ in pipe to 3½ in pipe	1 in pipe to 5 inch
Price.....	2 00	2 00	2 25	3 00	4 00	6 00	12 00	18 00
1. Jaw.....	67	67	75	1 00	1 33	2 00	4 00	6 00
2. Nut.....	20	20	27	35	42	50	65	80
3. Inserted Jaw.....	25	25	33	50	55	65	1 00	1 25
4. Saddle.....	20	20	27	35	42	50	65	80
5. Rocker.....	20	20	27	35	42	50	65	80

In ordering parts state the size of wrench.

## COMBINATION GAS PLYERS.

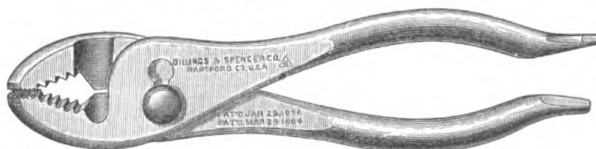


FIG. 164.

6 inch, finished, per dozen.....	\$13 50
10 inch, finished, per dozen.....	18 00

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## STILLSON'S PATENT WRENCH.



FIG. 165.

Length open, in inches.....	6	8	10	14	18	24	36	48
Taken from.....	$\frac{1}{8}$ in. wire to $\frac{1}{2}$ in. pipe	$\frac{1}{8}$ in. wire to $\frac{3}{4}$ in. pipe	$\frac{1}{8}$ in. wire to 1 in. pipe	$\frac{1}{4}$ in. wire to $1\frac{1}{2}$ in. pipe	$\frac{1}{4}$ in. wire to 2 in. pipe	$\frac{1}{4}$ in. wire to $2\frac{1}{2}$ in. pipe	$\frac{1}{2}$ in. pipe to $3\frac{1}{2}$ in. pipe	1 in. pipe to 5 in. pipe
Price .....	2 00	2 00	2 25	3 00	4 00	6 00	12 00	18 00
Jaws .....	67	67	75	1 00	1 33	2 00	4 00	6 00
Frames .....	25	25	33	45	55	65	75	1 00
Nuts .....	20	20	27	35	42	50	65	80

## ALLIGATOR WRENCH.



FIG. 166.

Number.....	1	2	3	4	5
Holds Pipe.....	$\frac{1}{8}$ to $\frac{3}{8}$	$\frac{3}{8}$ to $\frac{1}{2}$	$\frac{1}{2}$ to $1\frac{1}{4}$	$1\frac{1}{4}$ to 2	2 to 3
Price, each.....	35	1 00	2 00	3 00	4 50

## "ALWAYS READY" WRENCH.

FORGED STEEL, NICKLE PLATED.

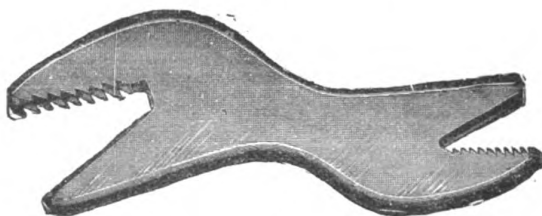


FIG. 167.

Number.....	1	2	$2\frac{1}{2}$	3
Holds Pipe.....	$\frac{1}{4}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $1\frac{1}{4}$	$\frac{1}{2}$ to $1\frac{3}{4}$	$\frac{3}{4}$ to $1\frac{3}{4}$
Price, per dozen.....	5 00	6 75	10 50	16 00

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## COMBINATION WRENCHES.

WITH WROUGHT IRON BAR, CASE-HARDENED THROUGHOUT, PARTS INTERCHANGEABLE.

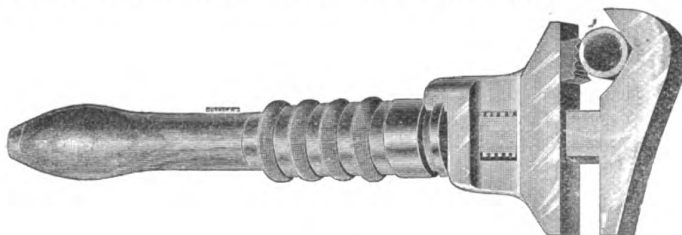


FIG. 168.

Bright—With Long Nut.

10 inch, adjustable to pipe from $\frac{1}{2}$ inch to 1 inch in diameter,	\$25	25	per dozen.
12 " " " " $\frac{1}{2}$ " $1\frac{3}{4}$ " " "	28	50	"
15 " " " " $\frac{1}{2}$ " 2 " " "	40	50	"

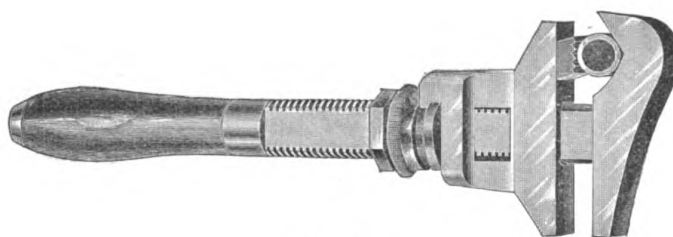


FIG. 169.

Bright—With Short Nut.

10 inch, adjustable to pipe from $\frac{1}{2}$ inch to 1 inch in diameter,	\$23	00	per dozen.
12 " " " " $\frac{1}{2}$ " $1\frac{3}{4}$ " " "	26	00	"
15 " " " " $\frac{1}{2}$ " 2 " " "	37	00	"

Black, Same List.

## GAS PLYERS.



FIG. 170.

Length..... inches	6	7	8	9	10	11	12	13	14
Price, each.....	60	75	85	1 00	1 25	1 50	1 75	2 00	2 25

RICHMOND, VIRGINIA.

## RED JACKET STEAM BOILER FLUE BLOWER.



FIG. 171.

Number .....	0	1	2	3	4	5	6
Size of Tube, Outside Diam...	$\frac{1}{4}$ to $1\frac{1}{4}$	2 to $2\frac{1}{2}$	$2\frac{1}{2}$ to $2\frac{3}{4}$	3 to $3\frac{1}{4}$	$3\frac{1}{2}$ to $3\frac{3}{4}$	4 to $4\frac{1}{2}$	5 to 6
Price, with Clamps & Nipple..	5 00	5 00	6 25	7 50	8 75	10 00	12 50

## ROLLER TUBE EXPANDER.

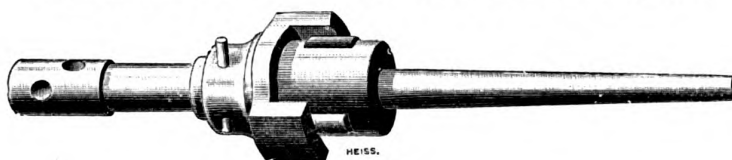


FIG. 172.

Diameter, inches.....	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$
Price, each.....	\$7 00	7 00	8 00	8 50	10 00	10 00	12 00	14 00	16 00
Diameter, inches.....	3	$3\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{3}{4}$	4	$4\frac{1}{4}$	$4\frac{1}{2}$	5	6
Price, each.....	18-00	20 00	23 00	25 00	28 00	30 00	33 00	40 00	48 00

## NEW COMBINATION FLUE CLEANER.

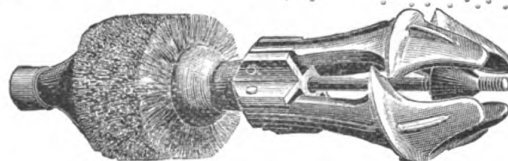


FIG. 173.

Size.....	1 to 2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{3}{4}$	4
Price.....	2 00	2 25	2 50	2 75	3 00	3 25	3 50	3 75	4 00

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## FLUE CLEANERS.

ENGINEERS' FAVORITE.

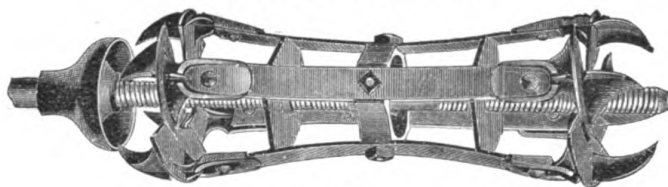


FIG. 174.

Size.....	1 to 2	2½	2½	2¾	3	3½	3½	3¾	4
Price, each.....	\$2 00	2 25	2 50	2 75	3 00	3 25	3 50	3 75	4 00

SPENCER.

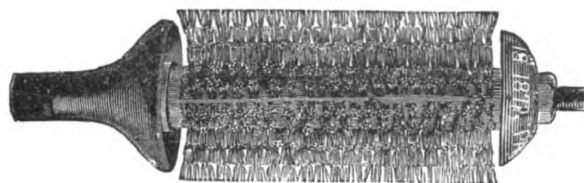


FIG. 175.

Size.....	1 to 2	2½	2½	2¾	3	3½	3½	3¾	4
Price, each.....	\$2 00	2 25	2 50	2 75	3 00	3 25	3 50	3 75	4 00

ELLIPTIC.

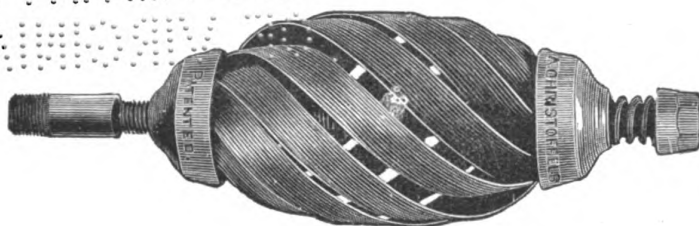


FIG. 176.

Size.....	1 to 2	2½	2½	2¾	3	3½	3½	3¾	4
Price, each.....	\$2 00	2 25	2 50	2 75	3 00	3 25	3 50	3 75	4 00

RICHMOND, VIRGINIA.

## CAST-IRON SOIL PIPE AND FITTINGS.



FIG. 177.



FIG. 178.

PRICE-LIST.	STANDARD.					EXTRA HEAVY.				
	2	3	4	5	6	2	3	4	5	6
Pipe..... per foot..	24	30	36	50	60	35	55	75	1 00	1 20
Double-Hub Pipe..... "	30	36	42	56	66	41	61	81	1 06	1 20
Quarter Bends..... each..	40	55	65	1 00	1 20	50	70	1 10	1 35	1 75
Bends, with Outlets..... "	70	85	95	1 30	1 50	80	1 00	1 40	1 65	2 05
Long Bends—18 inches..... "	80		1 50	2 25	2 50			2 25	3 00	3 50
Sixth Bends..... "	40	55	65	1 00	1 20	50	70	1 10	1 35	1 75
Eighth Bends..... "	35	45	65	90	1 05	45	65	1 00	1 20	1 40
Double-Hub Bends..... "	70	85	95	1 30	1 50	80	1 00	1 40	1 65	2 05
Double Hubs..... "	30	45	65	75	80	40	55	75	90	1 15
Reducers..... "		45	50	70	80			60	80	90
Ventilating Caps..... "	40	60	80	1 10	1 50					
Tee Branches..... "	40	55	75	1 20	1 40	60	80	1 20	1 50	2 00
Y or T Y Branches..... "	60	80	1 20	1 60	2 00	80	1 25	1 60	2 25	3 25
Double T Y Branches..... "	1 00	1 25	1 65	2 25	3 00	1 25	1 60	2 00	3 00	4 00
Offset to offset, 4 in..... "	50	75	85	1 40	2 00	90	1 10	1 25	1 80	3 00
" " 6 in..... "	60	80	1 00	1 60	2 25	1 00	1 20	1 40	2 00	3 25
" " 8 in..... "	70	90	1 15	1 80	2 40	1 10	1 35	1 50	2 25	3 50
" " 12 in..... "	85	1 00	1 40	2 00	2 75	1 25	1 45	1 80	2 50	4 00
Crosses..... "	80	1 10	1 25	1 60	2 50	1 00	1 40	1 75	2 10	3 30
Hooks..... "	05	08	10	12	15					
Traps..... "	80	1 25	1 75	3 00	4 00	1 25	2 00	2 75	4 00	5 50

## TERRA COTTA PIPE AND FITTINGS.

SIZE.	PIPE, PER FOOT.	BENDS, EACH.	BRANCHES, EACH.	TRAPS, EACH.	WEIGHT, PER FOOT.
2 inch.....	14	40	65	1 00	4 lbs.
3 ".....	16	50	75	1 50	6 "
4 ".....	20	65	90	2 00	9 "
5 ".....	25	85	1 15	2 50	12 "
6 ".....	30	1 10	1 35	3 50	15 "
8 ".....	45	1 80	2 00	5 50	25 "
10 ".....	65	2 75	3 00	7 50	29 "
12 ".....	85	3 50	3 85	10 00	38 "
15 ".....	1 25	4 75	5 65	15 00	52 "
18 ".....	1 70	6 50	8 00		67 "
20 ".....	2 25	7 50	11 00		92 "
24 ".....	3 25	11 00	15 00		102 "

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## LEATHER BELTING.

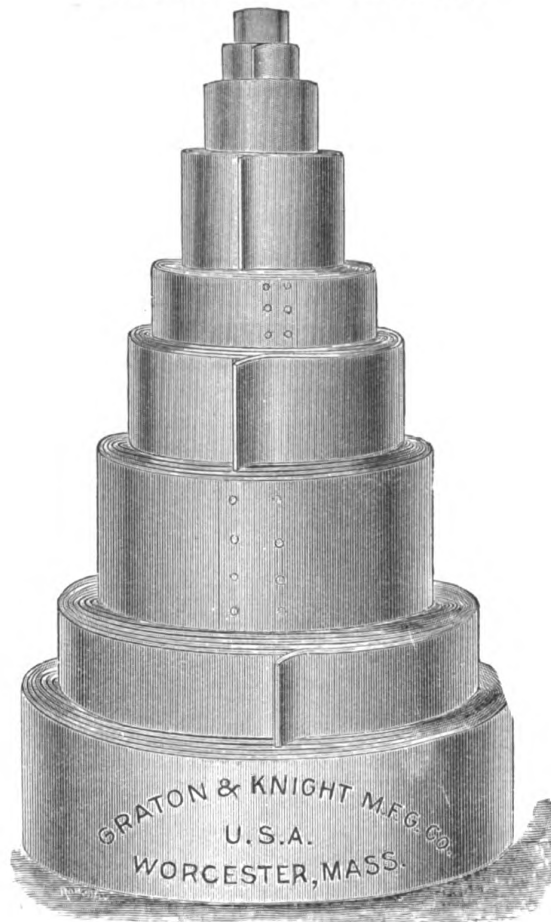


FIG. 179.

Price Per Running Foot.

Inches .....	1	1 1	1 1	2	2 1	2 1	2 3	3	3 1	4	4 1	5	5 1	6	6 1	7	8	9	10	11	12	13	14	15
Price .....	10	13	17	20	23	26	30	33	36	43	50	56	63	70	76	83	90	1 02	1 15	1 29	1 42	1 55	2 08	2 21

Inches.....	16	17	18	19	20	21	22	23	24	26	28	30	32	34	36	40	44
Price .....	2 14	2 31	2 49	2 66	2 84	3 02	3 20	3 37	3 54	3 92	4 30	4 64	5 00	5 35	5 70	6 40	7 10

## COTTON BELTING.

GANDY, LEVIATHAN, CHESAPEAKE OR MAIN COTTON BELTING

## FOUR-PLY.

1½ inch, per foot.....	\$ 14	4 inch, per foot.....	\$ 36	8 inch, per foot.....	\$ 72
2 " " ".....	18	4½ " " ".....	41	9 " " ".....	81
2½ " " ".....	23	5 " " ".....	45	10 " " ".....	90
3 " " ".....	27	6 " " ".....	54	11 " " ".....	99
3½ " " ".....	32	7 " " ".....	63	12 " " ".....	1 08

## SIX-PLY.

3 inch, per foot.....	\$ 36	8 inch, per foot.....	\$ 96	15 inch, per foot.....	\$1 80
3½ " " ".....	42	9 " " ".....	1 08	16 " " ".....	1 92
4 " " ".....	48	10 " " ".....	1 20	17 " " ".....	2 04
4½ " " ".....	54	11 " " ".....	1 32	18 " " ".....	2 16
5 " " ".....	60	12 " " ".....	1 44	20 " " ".....	2 40
6 " " ".....	72	13 " " ".....	1 56	22 " " ".....	2 64
7 " " ".....	84	14 " " ".....	1 68	24 " " ".....	2 88

## EIGHT-PLY.

12 inch, per foot.....	\$1 80	22 inch, per foot.....	\$3 30	36 inch, per foot.....	\$5 40
13 " " ".....	1 95	24 " " ".....	3 60	38 " " ".....	5 70
14 " " ".....	2 10	26 " " ".....	3 90	40 " " ".....	6 00
15 " " ".....	2 25	28 " " ".....	4 20	42 " " ".....	6 30
16 " " ".....	2 40	30 " " ".....	4 50	44 " " ".....	6 60
18 " " ".....	2 70	32 " " ".....	4 80	46 " " ".....	6 90
20 " " ".....	3 00	34 " " ".....	5 10	48 " " ".....	7 20

## SOLID WHITE COTTON BELTING.

Price per Running Foot.

Width.	2-Ply.	3-Ply.	4-Ply.	5-Ply.	6-Ply.
1 inch.....	\$ 04	\$ 07	\$ 10	\$ 13	\$ 16
1½ ".....	05	07	11	14	17
2 ".....	06	09	14	20	22
2½ ".....	07	11	15	22	24
3 ".....	08	13	17	26	28
3½ ".....	09	15	19	30	32
4 ".....	10	16	21	34	36
4½ ".....	11	18	24	36	39
5 ".....	14	20	26	38	41
5½ ".....	15	22	28	40	44
6 ".....	18	24	30	42	46
7 ".....	22	28	34	45	51
8 ".....	26	32	38	50	57
9 ".....	30	36	44	56	66
10 ".....	34	40	50	63	75
12 ".....	44	50	60	75	90
14 ".....	56	62	75	94	1 12
15 ".....	59	75	83	1 03	1 23
16 ".....	69	86	90	1 12	1 35
18 ".....	80	96	1 00	1 28	1 50
20 ".....	90	1 20	1 15	1 44	1 72
22 ".....	1 00		1 35	1 62	1 94
24 ".....	1 30			1 80	2 16

Any Intermediate Width made to Order.

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## RUBBER BELTING AND HOSE.

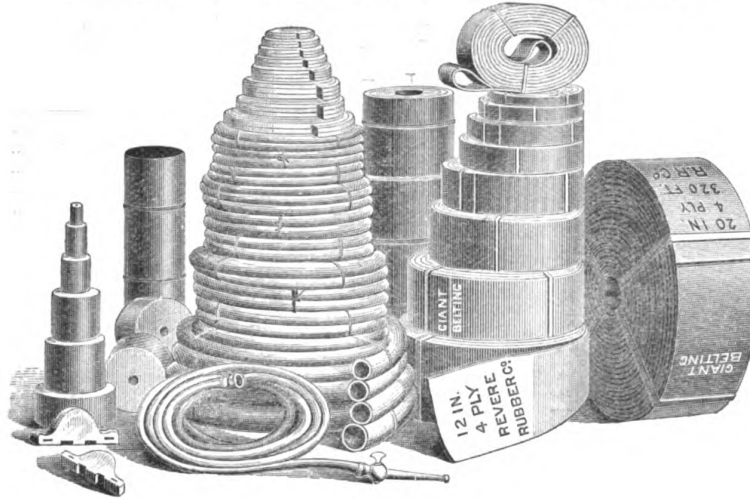


FIG. 180.

## STANDARD RUBBER BELTING.

Width.....	1	1½	1½	2	2½	3	3½	4	4½	5	6	7	8	9
Two-Ply...	07	09	11	15	18	22	26	30	33	36	43	51	59	67
Three-Ply...				17	22	26	30	34	39	43	52	60	70	80
Four-Ply...				21	26	31	37	42	47	52	62	73	84	95
Five-Ply...													1 05	1 18
Six-Ply...													1 26	1 42

Width.....	10	12	13	14	15	16	18	20	22	24	26	28	30
Two-Ply...	75	91											
Three-Ply...	90	1 08	1 18	1 28	1 38	1 50	1 70	1 90	2 12	2 36	2 60	2 84	
Four-Ply...	1 07	1 30	1 42	1 54	1 66	1 78	2 02	2 26	2 52	2 80	3 08	3 36	3 64
Five-Ply...	1 33	1 62	1 77	1 92	2 07	2 22	2 52	2 82	3 15	3 50	3 85	4 20	4 55
Six-Ply...	1 60	1 95	2 13	2 31	2 49	2 67	3 03	3 39	3 78	4 20	4 62	5 04	5 46

Endless Belts—three feet extra will be charged for splice.

## STANDARD RUBBER HOSE.

Inside Diameter.....	½	¾	1	1¼	1½	1¾	2	2¼	2½	2¾	3	4
Two-Ply Conducting Hose.....	20	25	33	42	50	58	66	75	83	92	99	1 32
Three-Ply for 75 lbs. pressure or less...	25	30	40	50	60	70	80	90	1 00	1 10	1 20	1 60
Four-Ply for 100 to 150 lbs. pressure...	30	37	50	62	75	87	1 00	1 12	1 25	1 37	1 50	2 00

## EXTRA STEAM HOSE.

Inside Diameter.....	½	¾	1	1¼	1½	1¾	2	2¼	2½
Four-Ply, for 35 lbs. of steam or less.....	51	67	83	1 04	1 25	1 45	1 66	1 87	2 08
Five-Ply, for 50 " " ".....	63	83	1 03	1 30	1 56	1 81	2 07	2 33	2 60
Six-Ply, for 75 " " ".....	76	1 00	1 24	1 56	1 87	2 17	2 49	2 80	3 12

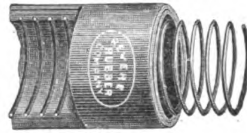
## WHITE RUBBER TUBING.

Inside Diameter.....	½	¾	1	1¼	1½	1¾	2	2¼	2½
Pure Rubber.....	08	12	16	18	20	25	30	35	45
Cloth Insertion.....	10	14	18	20	23	28	33	38	50

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## HOSE.

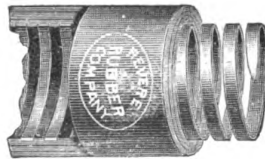
## SUCTION HOSE.



Brass Wire.

FIG. 181.

Inside Diameter.....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Brass Wire.....Price per foot,	\$ 0 77	1 00	1 25	1 65	2 10	2 50
Tinned Iron Wire.....“ “	70	90	1 15	1 50	1 90	2 30



Galvanized Wire.

FIG. 182.

Inside Diameter.....	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6
Galvanized Wire—Price per foot.....	\$3 10	4 00	4 90	5 80	6 70	7 60	8 50	9 50

## GARDEN, MILL AND LINEN HOSE.



FIG. 183.

Inside Diameter.....	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$
Cotton Garden Hose, Rubber Lined, Price per foot .....	\$0 25	30	40						
Cotton Mill “ “ .....				...	45	50	60	65	70
Linen “ Unlined, “ “ .....				16	18	20	24	26	28

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## PACKINGS.

ASBESTOS,	Mill Board,	per pound,
"	Piston,	"
"	Wick,	"
"	Gaskets,	"
"	Rope,	"
CANDLE WICK,	in Balls,	"
CRESCENT,	Round,	"
BLACK LEAD,	Round, Gum Core, (Plumbago),	"
" "	Oval, " " "	"
ELECTRIC,	Square, Rubber Back,	"
EMPIRE,	Oval, Gum Center,	"
EUREKA,	" " "	"
FLAX,	Square,	"
GARLOCK,	Spiral,	"
"	Sectional Ring,	"
GLOBE,	Oval, Gum Core,	"
GUM,	Sheet, Cloth Insertion,	"
"	" Pure,	"
"	Gaskets,	"
HEMP,	Italian,	"
JUTE,	"	"
PLUMBAGO,	Round, Gum Core, (Black Lead),	"
"	Oval, " " "	"
RAINBOW,	"	"
SELDENS,	Paper,	"
SOAPSTONE,	"	"
TUCKS,	Square,	"
"	Round	"
"	Rubber Back,	"
USUDURIAN,	"	"

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## COPPER RIVETS AND BURRS.



FIG. 184.

Number.....	7	8	9	10	11	12
Price, per pound.....	49	50	52	54	56	58

## POINTED BELT HOOKS.

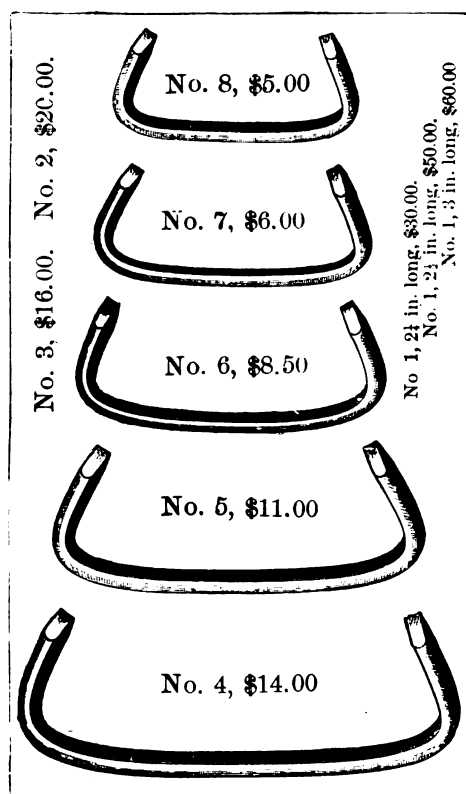


FIG 185.

## Hicks' Improved Pointed Belt Hooks.

PRICE PER		THOUSAND.
No. 15,		\$2.00
No. 14,		2.40
No. 13,		2.60
No. 12,		2.80
No. 11,		3.00
No. 10,		3.50
No. 9,		4.00

FIG. 186.

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## STANDARD BELT HOOKS.

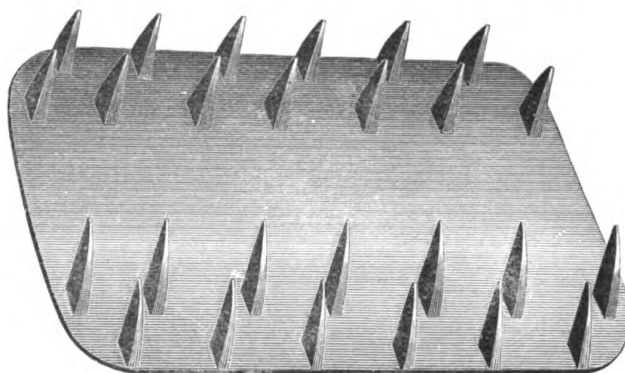


FIG. 187.

## FOR SINGLE LEATHER:

No. 1 fastens 1, 2, 2½ and 4 inch belts, per hundred.....	\$ 1 50
No. 2 fastens 1½, 3, 3½ and 6 inch belts, per hundred.....	2 00

## EXTRA WIDE FOR OLD SINGLE LEATHER BELTS AND FOR BELTS WIDER THAN 7 INCH:

No. 3½ for 2 inch belts, per hundred.....	3 50
No. 4½ for 2½ inch belts, per hundred.....	4 50

## 3-PLY RUBBER:

No. 17 for 2½ inch belts, per hundred.....	5 00
No. 20 for 3 inch belts, per hundred.....	7 00

## DOUBLE LEATHER OR 4-PLY RUBBER:

No. 12½ for 1½, 3, 4½ and 6 inch belts, per hundred.....	4 00
No. 13 for 2 inch belts, per hundred.....	5 00
No. 14 for 2½ inch belts, per hundred.....	6 50
No. 15 for 3 inch belts, per hundred.....	7 50

## 4-PLY OLD RUBBER:

No. 18 for 3 inch extra wide belts, per hundred.....	10 00
No. 19 for 4 inch extra wide belts, per hundred.....	12 00

## RIVET SETS.

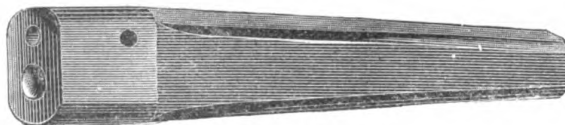


FIG. 188.

No.....	00 and 0	1 and 2	3 and 4	5 and 6	7 and 8
Price, each.....	75 cts.	63 cts.	50 cts.	37 cts.	32½ cts.

RICHMOND, VIRGINIA.



## ROUND BELT COUPLINGS.



FIG. 189.

Size.....	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Price, per dozen.....	2 50	2 00	2 50	3 00	4 00	6 00	9 00	13 00	18 00

## BLAKE'S BELT STUDS.

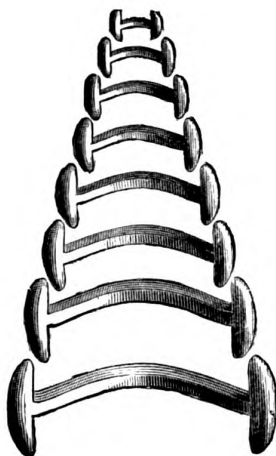


FIG. 190.

Nos.....	00	0	1	2	3	4	5
Price, per 100.....	2 50	2 00	1 65	1 25	90	80	70

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## LACE LEATHER CUTTER.

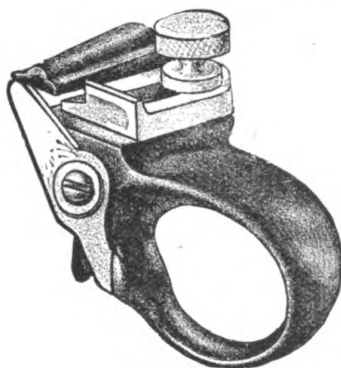


FIG. 191.

To cut any width from  $\frac{1}{8}$  to  $\frac{3}{4}$  inch.

Price, per dozen..... \$6 00

## REVOLVING BELT PUNCH.

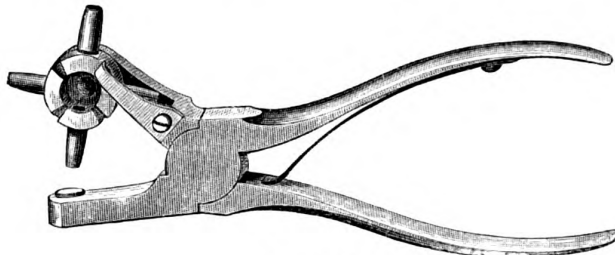


FIG. 192.

4 Tubes, price each..... \$1 50  
6 " " ..... 2 00

## BELT PUNCH.



FIG. 193.

Nos. 1 to 6, per dozen..... \$2 50  
" 7 " 9, " ..... 2 75  
" 10 " 12, " ..... 3 00

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## HOSE PIPES.

SCREW TIP.

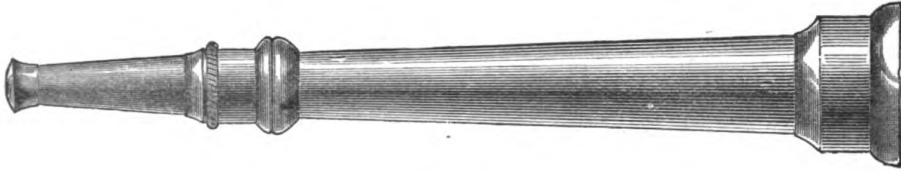


FIG. 194.

Size .....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Length, inches.....	8	10	12	12	15
Price, per dozen.....	8 00	10 00	20 00	25 00	39 00

COCK ON LARGE END.

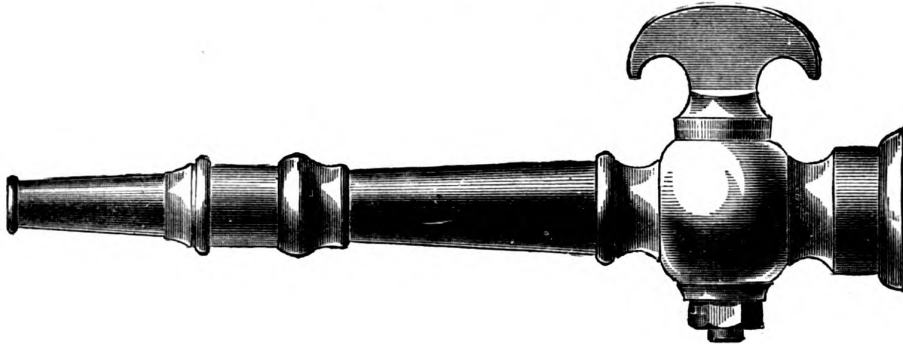


FIG. 195.

Size .....	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Length, inches.....	8	12	12	12
Price, per dozen.....	13 00	20 00	40 00	55 00

GEM HOSE SPRINKLER.

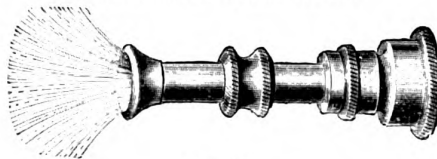


FIG. 196.

Size .....	$\frac{3}{4}$	1
Price, per dozen.....	10 00	12 00

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## HOSE COUPLING.

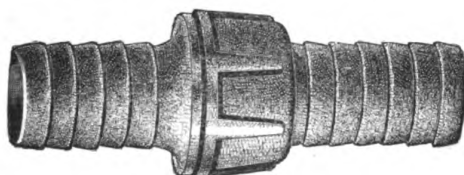


FIG. 197.

## HOSE CLAMP.

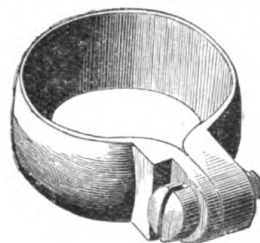


FIG. 198.

## WIRE HOSE BAND.



FIG. 199.

## HOSE NIPPLE.

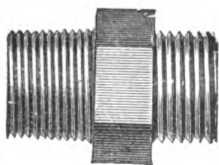


FIG. 200.

## HOSE SPRINKLER.

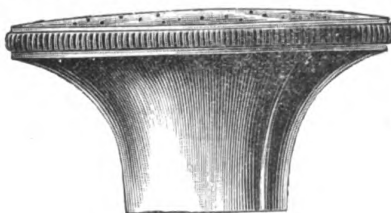


FIG. 201.

Size.....	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Hose Couplings, each.....	20	20	37	83	1 17	2 00	4 00	6 34
Hose Clamps, per dozen.....	1 50	1 50	2 00	2 50	3 00	4 00	7 00	10 00
Wire Hose Bands, per dozen.....	40	60	80	1 00	1 20	1 60	2 00	.....
Hose Nipples, each.....	30	30	45	75	85	1 20	2 40	3 40
Hose Sprinklers, per dozen.....	.....	3 50	4 50	.....	.....	.....	.....	.....

RICHMOND, VIRGINIA.

## WESTERN FORGES.

(WITH BELTS.)

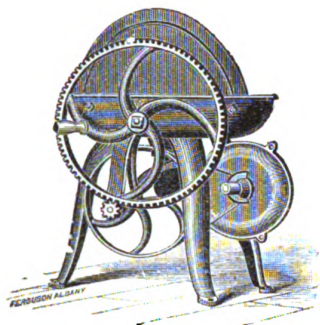


FIG. 202.

No. 77—Without Hood.

Fan 6 in. Height 15 in. Diameter 15 in.  
Weight 40 lbs. Price, \$16.00.

No. 79—With Closed Hood.

Fan 6 in. Height 20 in. Diameter 15 in.  
Weight 55 lbs. Price, \$20.00.

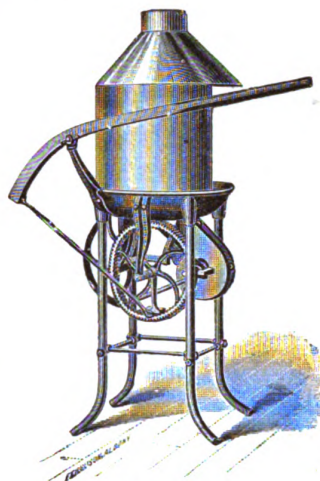


FIG. 203.

No. 35—With Pipe Legs, without Hood.

Fan 8 in. Height 33 in. Fire Pan 18 in. Diam.  
Weight 75 lbs. Price, \$24.00.

No. 36—With Pipe Legs, Closed Hood.

Fan 8 in. Height 33 in. Fire Pan 18 in. Diam.  
Weight 85 lbs. Price, \$30.00.

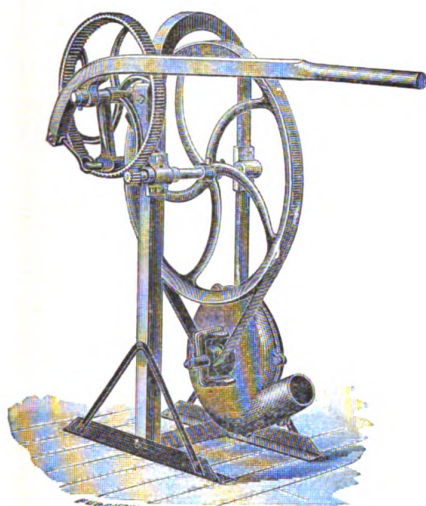


FIG. 204.

No. 1, Power or Hand, Price, \$29; Hand, Price, \$25.  
For Hand Use, Wt. 130 lbs. For Power, Wt. 140 lbs.  
Diameter of Fan, 14 in.



FIG. 205.

With Half Hood, Pipe Legs, Swivel Handle.  
Ht. of Fire Pan 25 in. Size 28x40 in. Fan 14 in.  
Wt. 310 lbs. No. 7, for Hand, Price, \$50.

For other goods in this line, see special catalogue.

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## FILES AND RASPS.



Fig. 212.

MILL AND ROUND.				FLAT AND SQUARE.			
Inch.	Bastard.	2d Cut.	Smooth.	Inch.	Bastard.	2d Cut.	Smooth.
4	1 80	2 15	2 40	4	2 00	2 40	2 65
5	2 00	2 40	2 65	5	2 20	2 60	2 90
6	2 25	2 65	2 95	6	2 50	2 95	3 25
7	2 55	3 00	3 30	7	2 90	3 40	3 75
8	2 90	3 40	3 70	8	3 40	4 00	4 35
9	3 30	3 85	4 20	9	4 00	4 70	5 10
10	3 80	4 40	4 80	10	4 70	5 45	5 90
11	4 50	5 20	5 65	11	5 60	6 50	7 05
12	5 40	6 20	6 75	12	6 70	7 70	8 40
13	6 50	7 45	8 05	13	8 00	9 15	10 00
14	7 80	8 90	9 65	14	9 50	10 90	11 80
15	9 30	10 60	11 45	15	11 20	12 75	13 75
16	11 00	12 50	13 40	16	13 10	14 85	16 00
17	12 90	14 60	15 60	17	15 25	17 25	18 45
18	15 10	16 90	18 10	18	17 65	19 75	21 20
19	17 60	19 70	21 10	19	20 30	22 75	24 35
20	20 40	22 85	24 50	20	23 20	26 00	27 85

## Extras.

Mill Double Cut..... Advance 1 inch.  
 Mill Narrow Points..... " 1 "  
 Cross-Cut Saw (Blunt)..... " 2 "

## Extras.

Cant Blunt (Double Cut)..... Advance 2 inches.

HAND, WARDING AND PILLAR.				HALF ROUND AND THREE SQUARE.			
Inch.	Bastard.	2d Cut.	Smooth.	Inch.	Bastard.	2d Cut.	Smooth.
4	2 25	2 70	3 00	4	2 50	3 00	3 30
5	2 50	3 00	3 30	5	2 80	3 35	3 70
6	2 80	3 30	3 65	6	3 20	3 80	4 15
7	3 20	3 75	4 15	7	3 70	4 35	4 80
8	3 70	4 35	4 75	8	4 30	5 00	5 50
9	4 35	5 10	5 55	9	5 00	5 85	6 40
10	5 20	6 00	6 55	10	5 80	6 75	7 30
11	6 30	7 30	7 95	11	6 70	7 75	8 45
12	7 50	8 60	9 40	12	7 80	9 00	9 75
13	8 90	10 20	11 00	13	9 10	10 40	11 25
14	10 50	12 00	13 00	14	10 60	12 10	13 10
15	12 30	14 00	15 10	15	12 40	14 15	15 25
16	14 30	16 20	17 50	16	14 50	16 50	17 70
17	16 60	18 75	20 10	17	16 90	19 10	20 50
18	19 20	21 50	23 00	18	19 60	22 00	23 50
19	22 10	24 75	26 50	19	22 60	25 30	27 10
20	25 30	28 35	30 35	20	26 00	29 10	31 20

## Extras.

Ginsaw (Single Cut), take Bastard Price.  
 Slotting (Blunt)..... Advance 2 inches.

## Extras.

Knife..... Advance 1 inch.  
 High Back, Half Round (Blunt)... " 2 "  
 Cross, " " 2 "  
 Feather Edge, " " 2 "

RICHMOND, VIRGINIA.



## FILES AND RASPS.

Inch.....	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14
Tapers, Single Cut.....	1 10 1	10 1	20 1	40 1	70 2	00 2	40 3	00 3	80 4	60 5	70 7	20	9 00	11 00	13 20
" Double ".....	1 60 1	60 1	75 2	00 2	40 2	75 3	25 4	00 4	95 5	90 7	10 8	80	10 80	12 90	15 20
Slim Tapers, Single ".....	1 20 1	20 1	30 1	45 1	70 1	90 2	10 2	50 3	00 3	70 4	50 5	50	6 80	8 30	10 00
" Double ".....	1 80 1	80 1	90 2	10 2	40 2	60 2	85 3	30 3	90 4	70 5	60 6	75	8 20	9 75	11 50
Pitsaw Blunt, Single ".....	2 10 2	10 2	20 2	30 2	50 2	80 3	20 3	70 4	30 5	00 5	80 6	70	7 70		
Hooktooth ".....							3 60 3	90 4	40 5	10 6	00 7	10	8 40		

## RASPS.

Inch.....	6	7	8	9	10	11	12	13	14	15	16	17	18
Horse Rasps, Plain.....					6 50	7 50	9 00	10 70	12 70	15 00	17 60	20 50	23 70
" Beveled and $\frac{3}{4}$ Rasp.....					7 20	8 30	10 00	11 80	14 00	16 50	19 40	22 50	26 00
" Tanged.....					9 00	10 25	12 00	14 00	16 50	19 50	23 00		
Wood Rasps, Half Round and Flat.....	4 20	5 00	6 10	7 30	8 75	10 40	12 30	14 50	16 90	19 60	23 00		
Cabinet Rasps.....	6 00	7 00	8 20	9 60	11 20	13 00	15 00	17 20	19 60	22 20	25 00		
" Files.....	4 20	5 00	6 10	7 30	8 75	10 40	12 30	14 50	16 90	19 60	22 50		
Shoe Rasps, Half Round and Flat.....	4 60	5 30	6 10	7 00	8 00	9 10	10 30	11 60	13 00				
" Oval.....	5 30	6 10	7 00	8 00	9 10	10 30	11 60						

## CHESTERMAN'S MEASURING TAPES.

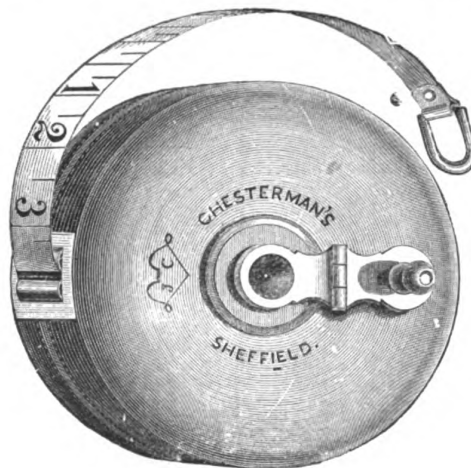


FIG. 213.

	25 feet.	50 feet.	75 feet.	100 feet.
Steel, each.....	\$4 50	7 20	10 40	12 80
Linen, with Flexible Wires.....	1 80	2 60	3 30	4 20

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## CIRCULAR SAWS.

SOLID TOOTH.

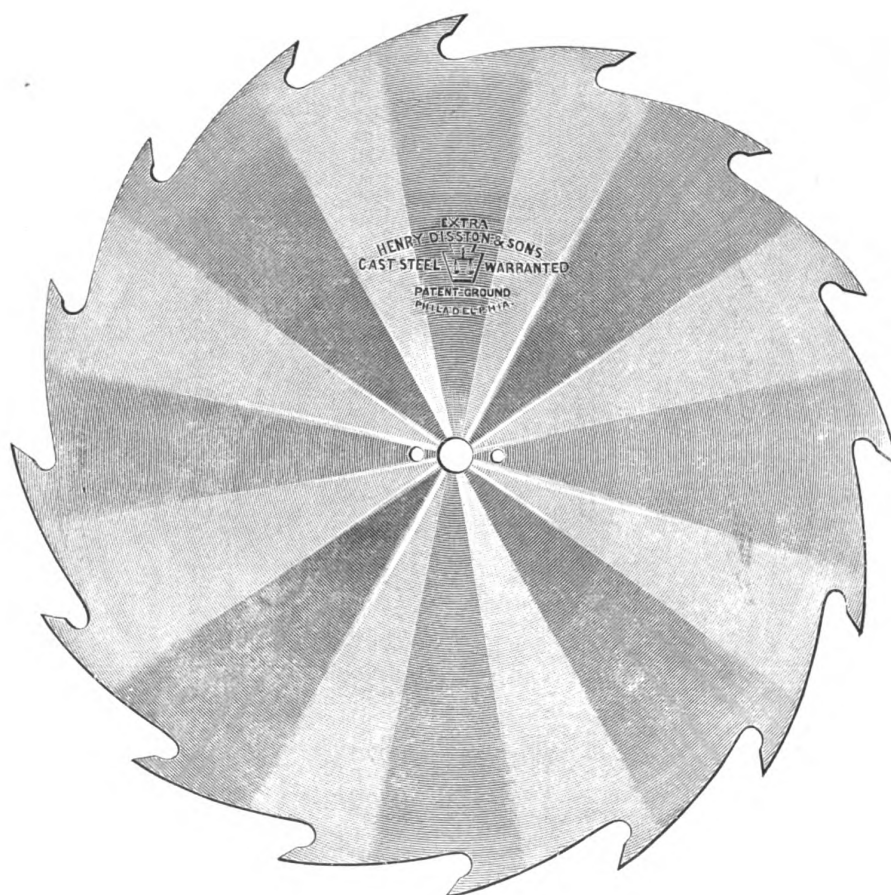


FIG. 214.

Can furnish any Make of Saws Desired.

RICHMOND, VIRGINIA.

## CIRCULAR SAWS.

## SOLID TOOTH.

Diameter.	Thickness.	Size of Hole.	Price, each.	Extra for each additional Gauge (heavier).	Prices for beveling new saws (grinding or beveling old saws, extra).
1 inch.	24 gauge.	$\frac{3}{8}$ inch.	\$ 50	\$ 01	\$ 06 per gauge.
1 $\frac{1}{4}$ inches.	24 "	"	55	01	07 "
2 "	23 "	"	60	01 $\frac{1}{2}$	08 "
2 $\frac{1}{2}$ "	22 "	"	65	02	09 "
3 "	21 "	"	70	02 $\frac{1}{2}$	10 "
3 $\frac{1}{2}$ "	20 "	"	80	03	12 "
4 "	19 "	"	90	03	14 "
5 "	19 "	"	1 10	04	16 "
6 "	18 "	"	1 30	05	18 "
7 "	18 "	"	1 50	06	20 "
8 "	18 "	"	1 75	08	22 "
9 "	17 "	"	2 00	10	25 "
10 "	16 "	1 "	2 30	12	28 "
11 "	16 "	1 "	2 65	14	30 "
12 "	15 "	1 "	3 00	17	35 "
14 "	15 "	1 $\frac{1}{4}$ "	4 50	21	40 "
16 "	14 "	1 $\frac{1}{2}$ "	5 50	25	50 "
18 "	13 "	1 $\frac{3}{4}$ "	7 00	30	60 "
20 "	13 "	1 $\frac{7}{8}$ "	8 50	35	70 "
22 "	12 "	1 $\frac{9}{16}$ "	10 00	45	80 "
24 "	11 "	1 $\frac{5}{8}$ "	12 00	55	90 "
26 "	11 "	1 $\frac{3}{4}$ "	14 50	65	1 05 "
28 "	10 "	1 $\frac{7}{8}$ "	16 00	80	1 20 "
30 "	10 "	1 $\frac{9}{16}$ "	18 00	90	1 30 "
32 "	10 "	1 $\frac{5}{8}$ "	20 00	1 00	1 40 "
34 "	9 "	1 $\frac{3}{4}$ "	22 50	1 20	1 55 "
36 "	9 "	1 $\frac{7}{8}$ "	25 50	1 40	1 70 "
38 "	9 "	1 $\frac{9}{16}$ "	30 00	1 75	1 85 "
40 "	9 "	2 "	35 00	2 00	2 00 "
42 "	8 "	2 "	40 00	2 50	2 20 "
44 "	8 "	2 "	52 50	3 00	2 40 "
46 "	8 "	2 "	60 00	3 50	2 60 "
48 "	8 "	2 "	70 00	4 00	2 80 "
50 "	7 "	2 "	80 00	4 50	3 00 "
52 "	7 "	2 "	90 00	5 00	3 25 "
54 "	7 "	2 "	100 00	6 00	3 50 "
56 "	7 "	2 "	115 00	7 00	3 75 "
58 "	7 "	2 "	130 00	8 00	4 05 "
60 "	6 "	2 "	145 00	9 00	4 35 "
62 "	6 "	2 "	160 00	10 00	4 65 "
64 "	6 "	2 "	180 00	12 00	5 00 "
66 "	6 "	2 "	200 00	15 00	5 35 "
68 "	5 "	2 "	225 00	18 00	5 75 "
70 "	5 "	2 "	255 00	21 00	6 15 "
72 "	5 "	2 "	290 00	24 00	6 55 "
74 "	5 "	2 "	330 00	27 00	7 00 "
76 "	5 "	2 "	375 00	30 00	7 50 "

Circular Saws to cut metal or ivory, 50 per cent. advance. No extra charge for Saws one gauge thicker than list. Circular Saws beveled one gauge without extra charge up to 44 inches. 44 inches and larger, beveled two gauges without extra charge.

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## CIRCULAR SAWS.

## INSERTED TOOTH.

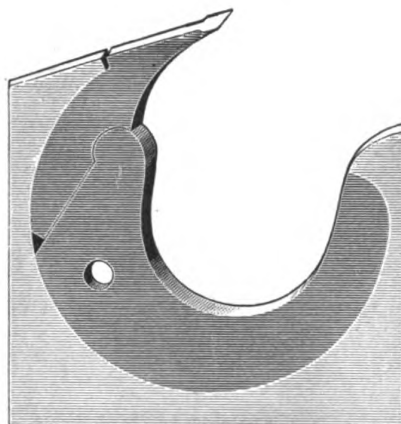


FIG. 215.

Diameter.	Thickness.	No. of Teeth.	Size of Hole.	Price, each.	Extra for each additional Gauge (heavier).	Price for beveling new saws (grinding or beveling old saws, extra).
12 inches.	11 gauge.	10		\$ 17 00	\$ 17	\$ 35
14 "	11 "	10		19 00	21	40
16 "	11 "	12		22 00	25	50
18 "	11 "	14	1 1/4 inch.	25 00	30	60
20 "	11 "	14	1 5/8 "	30 00	35	70
22 "	11 "	16	1 7/8 "	35 00	45	80
24 "	11 "	18	1 3/4 "	40 00	55	90
26 "	10 "	18	1 3/4 "	45 00	65	1 05
28 "	10 "	20	1 3/4 "	50 00	80	1 20
30 "	10 "	20	1 3/4 "	55 00	90	1 30
32 "	9 "	22	1 3/4 "	60 00	1 00	1 40
34 "	9 "	22	1 3/4 "	66 00	1 20	1 55
36 "	8 "	24	1 3/4 "	72 00	1 40	1 70
38 "	8 "	24	1 3/4 "	78 00	1 75	1 85
40 "	8 "	26	2 "	84 00	2 00	2 00
42 "	8 "	28	2 "	90 00	2 50	2 20
44 "	7 "	30	2 "	97 00	3 00	2 40
46 "	7 "	30	2 "	105 00	3 50	2 60
48 "	7 "	32	2 "	115 00	4 00	2 80
50 "	7 "	34	2 "	130 00	4 50	3 00
52 "	6 "	36	2 "	150 00	5 00	3 25
54 "	6 "	38	2 "	175 00	6 00	3 50
56 "	6 "	40	2 "	200 00	7 00	3 75
58 "	6 "	42	2 "	225 00	8 00	4 05
60 "	5 "	42	2 "	255 00	9 00	4 35
62 "	5 "	44	2 "	290 00	10 00	4 65
64 "	5 "	44	2 "	325 00	12 00	5 00
66 "	5 "	48	2 "	360 00	15 00	5 35
68 "	5 "	48	2 "	400 00	18 00	5 75
70 "	4 "	52	2 "	450 00	21 00	6 15
72 "	4 "	52	2 "	500 00	24 00	6 55

Ten extra sets of Points given with each Saw, whether new or altered from a solid tooth.

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## DISSTON'S SAW GUMMERS.

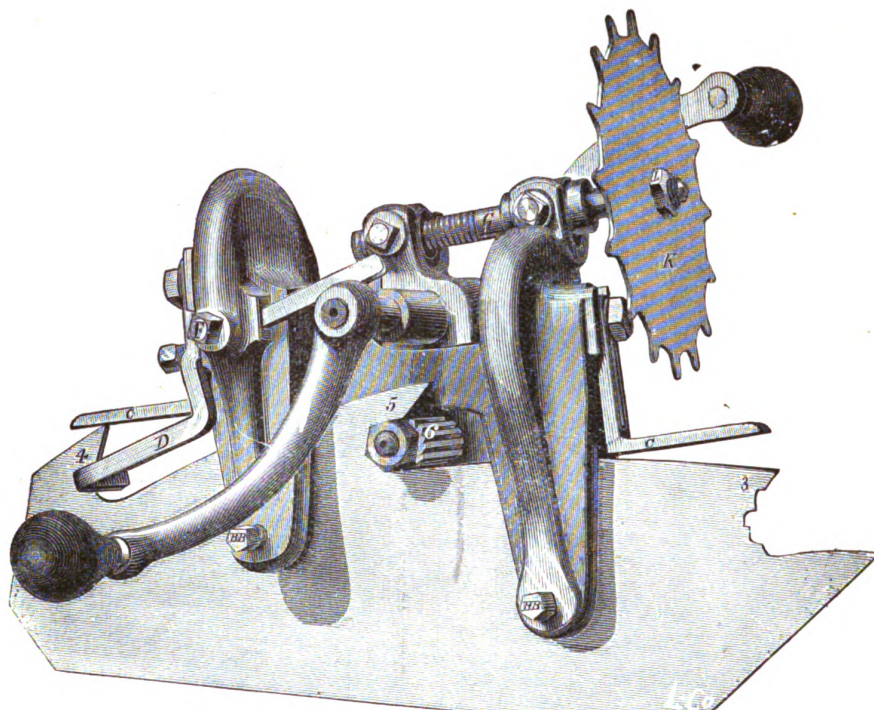


FIG. 216.

No. 1.—Price, including Cutter-Holder and three Cutters of any sizes from 1 to 1½.....\$20 00  
 " 2.— " " " " " one Cutter, each, ½, ¾, 1, 1½..... 15 00

## DISSTON'S GUMMER CUTTERS.

Cutters for No. 2 Gummer have a  $\frac{5}{16}$  in. hole. Cutters for No. 1 Gummer have a  $\frac{9}{16}$  in. hole.

$\frac{1}{2}$ in.	$\frac{5}{8}$ in.	$\frac{3}{4}$ in.	$\frac{7}{8}$ in.	1 in.	1½ in.	1¼ in.	1⅝ in.	1½ in.
.40	.50	.60	.65	.65	.80	.90	1 05	1 20 each.

The 1 inch to 1½ inch Cutters are for the No. 1 Gummer, and the ½ to ¾ inch for the No. 2 Gummer.

**SPECIAL CUTTERS MADE TO ORDER.**

**RICHMOND, VIRGINIA.**



## MIXTER'S GUMMER.

WITH PATENT AUTOMATIC SELF-FEED.

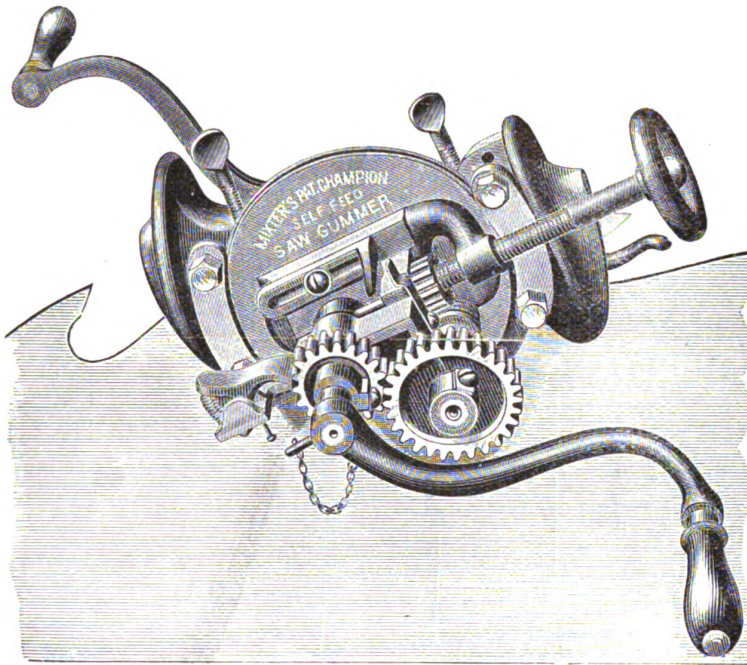


FIG. 217.

The Mixer Patent Automatic Self-Feeding Champion Gummer, including three Cutters (usual size,  $\frac{3}{4}$ ,  $\frac{1}{2}$ , and 1 inch), grinder and wrench..... \$20 00

## PRICES OF MIXTER GUMMER CUTTERS.

## MIXTER'S XX CUTTERS

Size.....	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	$\frac{3}{4}$ in.	$\frac{1}{2}$ in.	1 in.	1 $\frac{1}{8}$ in.	1 $\frac{1}{4}$ in.	1 $\frac{1}{2}$ in.
Each, net.....	50c.	50c.	50c.	60c.	70c.	80c.	90c.	\$1.00	\$1.25

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## CROSS-CUT SAWS.

GREAT AMERICAN CROSS-CUT SAW.



FIG. 218.

Price, per foot..... 68 cents.

TRIUMPH NARROW BACK CROSS-CUT SAW.



FIG. 219.

Price, per foot, with Handles Complete..... 44 cents.

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## MORRELL'S PERFECT SAW SETS.

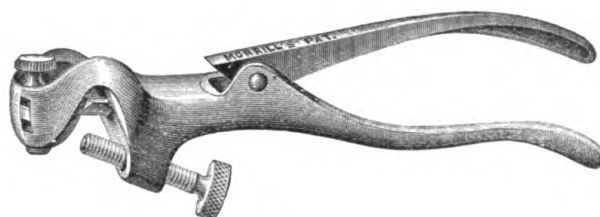


FIG. 220.

No. 1.

No. 1, for Hand Saws of every description, from 32 to 16 Gauge, price, per dozen .....\$15 00

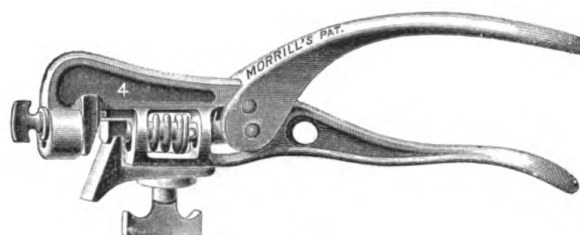


FIG. 221.

No. 3, for Single Tooth, Cross-Cut, and Small Circular Saws, from 20 to 14 Gauge, price, per dozen, \$24 00

No. 4, Champion or M Tooth Cross-Cut Saws, from 32 to 14 Gauge, price, per dozen..... 24 00

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## DISSTON'S SAW SWAGE.



FIG. 222.

Nos.....	00	0	1	2	3
Price, each.....	4 00	3 50	3 00	2 50	2 00

## DISSTON'S SIDE FILE.

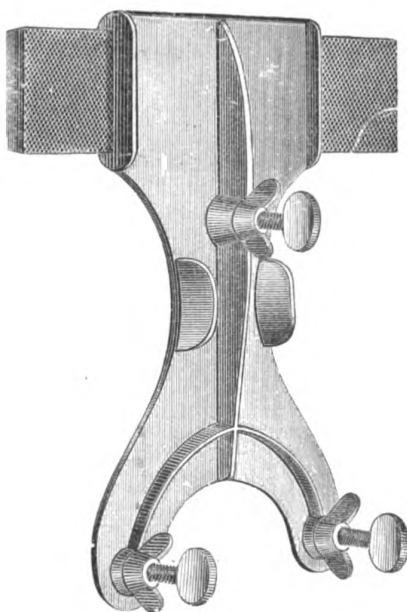


FIG. 223.

Price, each—Complete.....	\$1 50
“ “ File.....	50
“ “ Frame.....	1 00

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CANT HOOKS AND PEAVIES.

HANDLED.

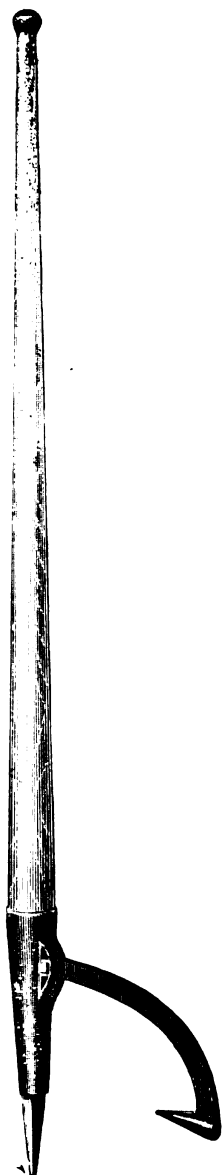


FIG. 224.

Price, each..... \$2 00



FIG. 225.



FIG. 226.

Price, each..... \$1 50

## EMERY WHEEL MACHINERY.

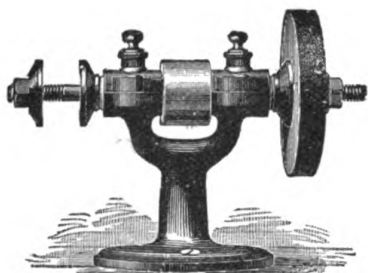


FIG. 227.

GRINDING MACHINE No. 1.

PRICE, - \$8.00.

Will run two Wheels 6 inches Diameter

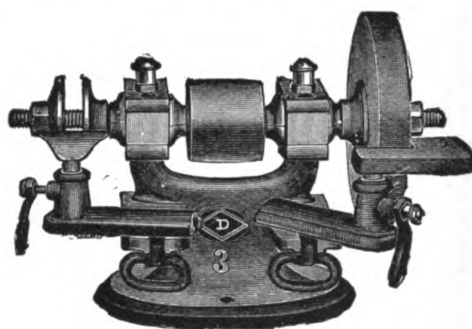


FIG. 228.

GRINDING MACHINE No. 3.

PRICE, - \$17.50.

Will run two Wheels 9 inches Diameter.

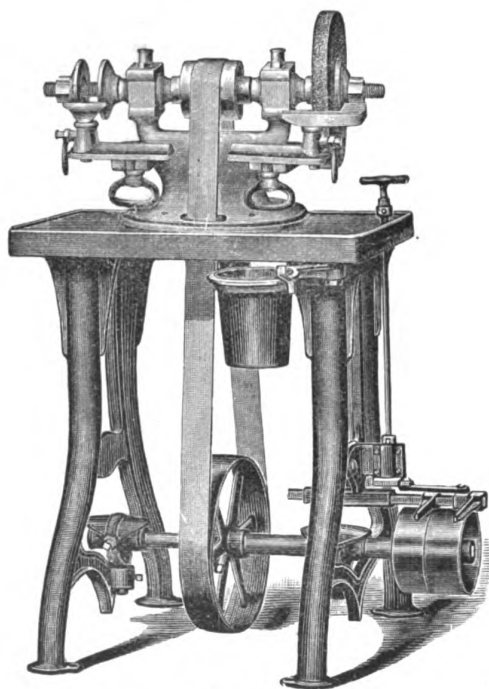


FIG. 229.

GRINDING MACHINE No. 4.

Mounted on Frame with Driving Shaft and Patent Belt Shifter.

PRICE, - \$60.00

Will run two Wheels 12 inches in Diameter.

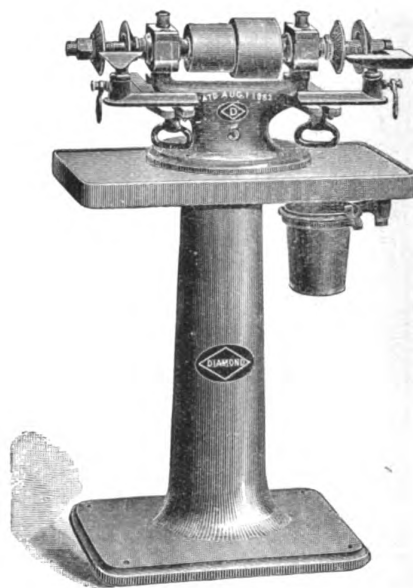


FIG. 230.

GRINDING MACHINE No. 5.

Price on Column with Counter Shaft, \$67.00.

Will run two Wheels 14 inches in Diameter.

For other goods in this line, see Special Catalogue.

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## EMERY WHEELS.

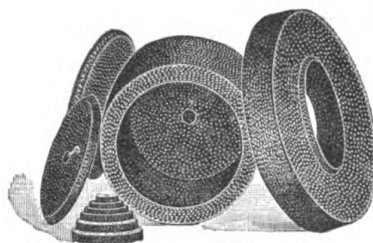


FIG. 231.

## POROUS, VITRIFIED, EMERY AND CORUNDUM WHEELS.

Diam. in inches.	THICKNESS OF WHEELS IN INCHES.															Diam. in inches.	Revolu- tions per minute.
	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{2}$	4			
$1\frac{1}{2}$	40	45	45	50	55	60	65	70	75	80	85	90	1 00	1 10	$1\frac{1}{2}$	12,000	
2	50	55	55	60	65	70	75	80	85	90	95	1 00	1 10	1 20	2	10,000	
$2\frac{1}{2}$	65	70	75	85	95	1 05	1 15	1 25	1 35	1 45	1 55	1 65	1 85	2 05	$2\frac{1}{2}$	8,500	
3	75	85	95	1 10	1 25	1 35	1 45	1 60	1 85	1 85	2 00	2 10	2 60	3 00	3	7,400	
4	1 10	1 25	1 35	1 60	1 90	2 20	2 50	2 75	2 85	3 25	3 35	3 85	4 60	5 00	4	5,450	
5	1 40	1 60	1 80	2 10	2 60	3 00	3 45	3 80	4 20	4 65	5 00	5 40	6 40	7 40	5	4,400	
6	1 75	2 15	2 50	3 05	3 70	4 30	5 00	5 60	6 25	6 90	7 45	8 25	9 50	11 00	6	3,600	
7	2 30	2 75	3 15	3 95	5 00	5 60	6 40	7 25	8 10	8 90	9 70	10 55	11 10	12 60	7	3,150	
8	2 60	3 10	3 60	4 50	5 70	6 40	7 60	8 30	9 60	10 20	11 60	12 05	14 00	16 00	8	2,750	
9	3 15	3 50	3 85	4 90	6 80	8 05	9 25	10 50	11 25	12 95	13 75	15 40	19 00	21 75	9	2,450	
10	3 70	4 40	5 10	6 60	8 10	9 50	11 00	12 40	14 25	15 35	17 25	18 15	21 00	23 80	10	2,200	
12	4 25	5 00	6 00	7 40	9 00	10 70	12 75	14 00	15 70	17 40	19 00	20 75	24 25	27 50	12	1,850	
14	6 20	7 45	8 70	10 70	13 25	15 20	17 80	19 50	21 80	24 20	26 30	26 75	28 70	30 70	14	1,600	
16	.....	.....	11 00	13 70	16 90	19 40	22 00	25 00	27 90	30 80	33 50	36 50	43 00	48 75	16	1,400	
18	.....	.....	13 75	17 00	21 75	24 50	28 75	32 00	35 75	39 50	43 25	47 00	54 50	62 00	18	1,250	
20	.....	.....	.....	20 00	25 00	29 00	34 00	38 00	42 50	47 00	51 50	56 00	66 00	75 00	20	1,100	
22	.....	.....	.....	29 87	35 50	41 12	46 75	52 00	58 00	63 50	69 25	80 50	91 75	22	1,000		
24	.....	.....	.....	.....	43 00	50 00	57 00	64 00	71 00	78 00	85 00	99 00	113 00	24	925		
26	.....	.....	.....	.....	49 00	58 00	65 00	73 50	82 00	90 00	98 00	114 00	130 00	26	825		
30	.....	.....	.....	.....	66 00	77 50	87 50	98 25	109 00	120 00	131 00	153 00	175 00	30	735		
36	.....	.....	.....	.....	95 00	110 00	125 00	140 50	156 00	172 00	188 00	219 00	250 00	36	550		

## HUNTINGTON EMERY WHEEL DRESSER.



FIG. 232.

Price, each..... \$4 00

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## SAW MANDRELL.

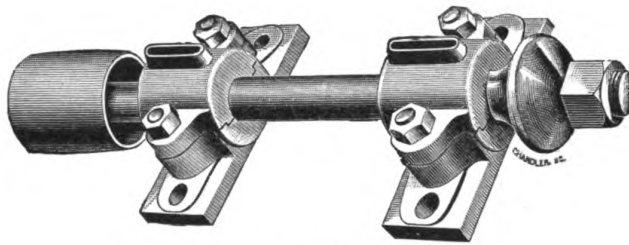


FIG. 234.

Diameter of Pulley.		Face of Pulley.	Diameter of Flange.	Length of Shaft.	Diameter of Shaft.	Size of Hole in Saw.	Price each.
No. 1,	2½ inches.	3½ inches.	2½ inches.	16½ inches.	1⅜ inch.	1 inch.	\$ 7 70
No. 2,	3 "	4 "	3 "	19 "	1⅜ "	1½ "	8 50
No. 3,	3½ "	4½ "	3½ "	21½ "	1⅜ "	1½ "	9 00
No. 4,	4 "	5 "	4 "	24 "	1⅜ "	1⅝ "	10 75
No. 5,	4½ "	5½ "	4½ "	26 "	1⅜ "	1⅝ "	12 00
No. 6,	5 "	6 "	5 "	28 "	1⅜ "	1¾ "	13 75
No. 7,	5½ "	6½ "	5½ "	30½ "	1⅜ "	1¾ "	15 00
No. 8,	6 "	7 "	6 "	32½ "	1⅜ "	1½ "	19 50
No. 9,	7 "	8 "	6 "	37 "	1½ "	1½ "	23 50
No. 10,	8 "	8 "	6 "	41 "	1½ "	1½ "	28 00

RICHMOND, VIRGINIA.



## SHAFTING, PULLEYS, &amp;c.

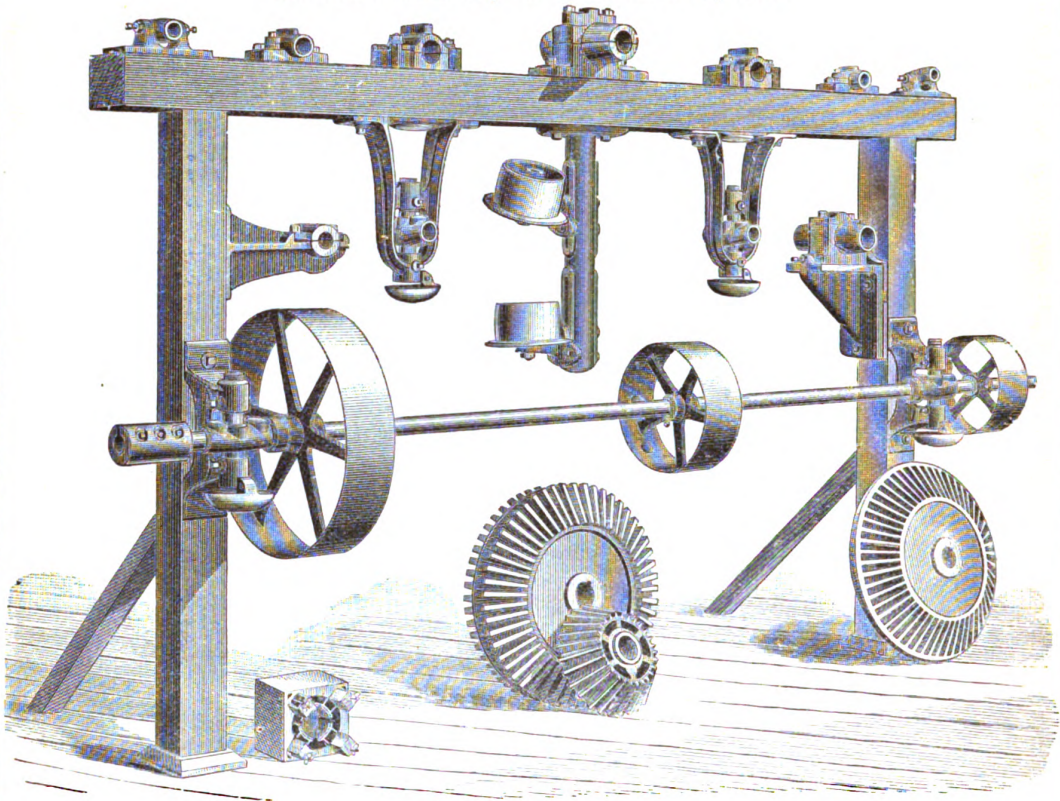


Fig. 235.

## FINISHED SHAFTING.

Diameter.....	1 $\frac{7}{8}$	1 $\frac{1}{2}$	1 $\frac{5}{8}$	2 $\frac{3}{8}$	2 $\frac{7}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3 $\frac{1}{8}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$	4 $\frac{1}{8}$	4 $\frac{3}{8}$	4 $\frac{1}{2}$
Per Foot.....	60	75	90	112	140	170	200	230	270	313	353	404	456	515

## COUPLINGS.

Diameter of Shaft.....	1 $\frac{7}{8}$	1 $\frac{1}{2}$	1 $\frac{5}{8}$	2 $\frac{3}{8}$	2 $\frac{7}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3 $\frac{1}{8}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$
Plate Couplings, per pair.....	8 00	8 50	9 00	10 50	12 50	15 00	18 50	22 00	25 00	28 75	32 50
Fitting on Shaft, per pair.....	2 50	2 50	2 75	2 75	3 00	3 25	3 50	4 00	4 50	5 00	6 00
Compression Couplings, each...	6 54	8 36	10 00	12 14	14 80	17 64	20 60	24 10	28 00	32 00	
Set Collars, each.....	1 00	1 10	1 25	1 50	1 75	1 90	2 00	2 25	2 50	2 75	3 00

## BALL AND SOCKET PEDESTALS AND POST HANGERS.

Diameter of Boxes .....	1 $\frac{7}{8}$	1 $\frac{1}{2}$	1 $\frac{5}{8}$	2 $\frac{3}{8}$	2 $\frac{7}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3 $\frac{1}{8}$	3 $\frac{3}{8}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$
Pedestals, Plain Boxes.....	4 25	5 00	6 25	7 75	9 25	11 25	13 75	15 00	20 00	22 75	25 50
“ Babbitt “ .....	5 50	6 25	7 75	10 00	13 00	15 75	19 00	20 50	26 25	30 00	34 00
Base Plates for Pedestals.....			4 50	4 50	5 75	5 75	7 50	7 50	9 50	9 50	12 00
Brackets for “ .....	4 00	4 00	4 50	4 50	5 75	5 75	7 50	7 50	9 50	9 50	12 00
Post Hangers, Plain Boxes.....	3 50	4 25	5 25	6 25	8 25	10 25	12 25	15 00	19 00	22 50	25 50
“ Babbitt “ .....	4 75	5 50	6 75	8 50	12 00	14 75	17 50	20 50	25 25	29 75	34 00

Prices of Shafting, Couplings, &c., of larger sizes, will be furnished on application, or complete Estimates will be furnished on receipt of specifications.

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## DOUBLE BRACE BALL AND SOCKET HANGERS.

Diameter of Boxes.....	$1\frac{7}{8}$	$1\frac{11}{8}$	$1\frac{15}{8}$	$2\frac{3}{8}$	$2\frac{7}{8}$	$2\frac{11}{8}$	$2\frac{15}{8}$	$3\frac{3}{8}$	$3\frac{7}{8}$	$3\frac{11}{8}$	$3\frac{15}{8}$
Length of Boxes.....	6	7	8	9	10	11	12	13	14	15	16
10 inch Drop.....	4 65	5 15	6 00	7 50	9 25	11 30	13 65	16 80			
13 ".....	5 10	5 55	6 60	8 20	10 25	12 25	14 75	17 25	22 45	24 50	27 15
16 ".....	5 75	6 20	7 25	8 85	10 75	13 25	15 85	18 50	24 00	26 00	28 75
20 ".....	6 50	7 00	8 40	9 75	11 65	14 55	17 35	20 25	26 10	28 00	31 00
25 ".....			8 90	11 00	13 30	16 15	19 25	22 40	28 70	30 75	33 75
30 ".....			9 85	12 00	14 70	17 80	21 15	24 50	31 35	33 40	36 60
36 ".....						19 80	23 45	27 20	34 50	36 75	40 00

## FINISHED IRON PULLEYS.

BORED, TURNED, BALANCED AND KEY-SEATED OR SET-SCREWED.

Diameter.	Width of Face	Single Belt.	Diameter.	Width of Face	Single Belt.	Diameter.	Width of Face	Single Belt.	Double Belt.	Diameter.	Width of Face	Single Belt.	Double Belt.
6	4	2 40	13	10	5 80	19	10	8 30	10 70	24	4	6 20	8 36
	6	2 90		12	6 60		12	9 70	12 58		6	7 80	9 96
	8	3 40		14	7 70		14	11 50	14 68		8	9 40	11 80
7	4	2 50	14	4	3 60		16	13 40	16 88		10	11 30	14 06
	6	3 00		6	4 50		18	16 10	19 88		12	13 30	16 90
	8	3 60		8	5 20	20	4	5 10	6 90		14	15 70	19 66
	10	4 20		10	6 10		6	6 20	8 00		16	18 70	22 90
8	4	2 60		12	7 10		8	7 50	9 66		18	22 10	26 66
	6	3 20		14	8 30		10	8 90	11 30		20	26 00	30 80
	8	3 70	15	4	3 80		12	10 30	13 30	25	4	6 50	8 78
	10	4 40		6	4 70		14	12 30	15 66		6	8 30	10 58
	12	5 10		8	5 50		16	14 30	17 90		8	10 00	12 58
	14	5 80		10	6 50		18	17 40	21 36		10	11 90	14 78
9	4	2 80		12	7 50		20	20 80	25 00		12	14 10	17 88
	6	3 40		14	8 80	21	4	5 30	7 10		14	16 70	20 78
	8	3 90		4	4 10		6	6 60	8 40		16	19 80	24 18
	10	4 60	16	6	5 00		8	7 90	10 06		18	23 30	27 98
	12	5 30		8	5 90		10	9 40	11 80		20	27 30	32 28
	14	6 10		10	6 90		12	11 00	14 18	26	4	6 90	9 30
10	4	3 00		12	8 00		14	13 10	16 58		6	8 70	11 10
	6	3 50		14	9 40		16	15 30	19 08		8	10 60	13 36
	8	4 10		16	10 80		18	18 40	22 48		10	12 70	15 70
	10	4 80	17	4	4 30		20	22 00	26 38		12	15 00	18 96
	12	5 50		6	5 20	22	4	5 60	7 40		14	17 70	21 90
	14	6 40		8	6 20		6	7 00	8 80		16	20 90	25 46
11	4	3 10		10	7 40		8	8 40	10 56		18	24 50	29 30
	6	3 60		12	8 50		10	10 00	12 40		20	28 70	33 86
	8	4 40		14	10 00		12	11 80	15 16	27	4	7 20	9 78
	10	5 10		16	11 70		14	13 90	17 50		6	9 30	11 88
	12	5 90	18	4	4 50		16	16 40	20 36		8	11 30	14 18
	14	6 80		6	5 50		18	19 70	23 90		10	13 50	16 68
12	4	3 30		8	6 60		20	23 40	27 96		12	16 00	20 08
	6	4 00		10	7 90	23	6	7 40	9 56		14	18 70	23 08
	8	4 60		12	9 10		8	8 90	11 30		16	22 00	26 68
	10	5 40		14	10 80		10	10 60	13 36		18	25 60	30 58
	12	6 20		16	12 60		12	12 50	16 10		20	30 10	35 38
	14	7 30		18	14 90		14	14 80	18 76	28	4	7 60	10 36
13	4	3 40	19	4	4 80		16	17 50	21 70		6	9 90	12 66
	6	4 20		6	5 80		18	20 90	25 46		8	11 90	14 90
	8	4 90		8	7 00		20	24 60	29 40		10	14 30	17 66

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## FINISHED PULLEYS.

BORED, TURNED, BALANCED AND KEY-SEATED OR SET-SCREWED.

Diameter	Width of Face	Single Belt.	Double Belt.	Diameter.	Width of Face	Single Belt.	Double Belt.	Diameter.	Width of Face	Single Belt.	Double Belt.
28	12	16 90	21 10	34	12	22 40	27 66	40	20	49 00	58 00
	14	19 70	24 26		14	25 90	31 66	42	8	20 30	25 70
	16	23 10	27 90		16	29 90	35 90		8	23 90	29 90
	18	26 90	32 06		18	34 20	40 50		10	26 90	33 50
	20	31 50	36 90		20	39 80	46 78		12	31 10	38 66
29	4	8 00	10 88	35	4	10 90	14 68		14	35 00	43 16
	6	10 00	13 38		6	14 40	18 18		16	39 70	48 10
	8	12 50	15 68		8	17 20	21 28		18	45 80	54 30
	10	15 10	18 46		10	20 20	24 58		20	52 00	61 60
	12	17 80	22 18		12	23 40	28 68	44	6	22 20	28 20
	14	20 80	25 48		14	27 00	32 88		8	26 10	32 70
	16	24 20	29 18		16	31 10	37 40		10	29 80	36 50
	18	28 00	33 28		18	35 40	42 18		12	33 40	41 56
	20	32 90	38 48		20	41 20	48 68		14	37 60	46 86
30	4	8 50	11 50	36	4	11 50	15 46		16	42 60	51 96
	6	11 10	14 10		6	15 10	19 06		18	48 50	58 46
	8	13 20	16 56		8	18 00	22 20		20	55 70	66 26
	10	15 90	19 50		10	21 10	25 68	46	6	24 20	30 80
	12	18 70	23 26		12	24 40	29 80		8	28 20	35 40
	14	21 80	26 00		14	28 00	34 00		10	31 60	39 40
	16	25 40	30 56		16	32 20	38 80		12	35 60	44 36
	18	29 20	34 60		18	36 80	44 00		14	40 30	49 90
	20	34 30	40 06		20	42 70	50 50		16	45 80	56 00
31	4	9 00	12 18	37	6	15 90	19 98		18	51 90	62 70
	6	11 70	14 88		8	18 90	23 40		20	59 80	70 70
	8	14 00	17 48		10	22 00	26 68	48	6	26 20	32 40
	10	16 80	20 58		12	25 40	31 10		8	30 40	38 20
	12	19 70	24 38		14	29 20	35 60		10	34 00	42 40
	14	22 90	27 88		16	33 40	40 30		12	38 00	47 12
	16	26 60	31 88		18	38 10	45 60		14	43 20	53 16
	18	30 50	36 08		20	44 10	52 20		16	49 00	60 16
	20	35 79	41 76	38	6	16 70	20 90		18	55 50	67 26
32	4	9 40	12 76		8	19 70	24 50		20	62 90	74 90
	6	12 30	15 66		10	22 80	28 20		22	73 00	91 00
	8	14 80	18 40		12	26 50	32 60		24	81 50	105 50
	10	17 60	21 56		14	30 30	36 90	50	6	28 20	36 00
	12	20 60	25 40		16	34 60	41 80		8	32 70	41 10
	14	23 90	29 06		18	39 40	47 20		10	36 40	45 40
	16	27 70	33 10		20	45 70	54 10		12	40 50	50 46
	18	31 80	37 56	39	6	7 70	22 20		14	46 20	56 76
	20	37 10	43 46		8	20 80	25 90		16	52 00	64 00
33	4	9 90	13 38		10	23 80	29 60		18	58 90	71 86
	6	13 00	16 48		12	27 60	33 96		20	66 90	80 46
	8	15 60	19 38		14	31 50	38 58		22	77 00	95 96
	10	18 40	22 48		16	35 80	43 80		24	86 30	111 26
	12	21 50	26 48		18	40 80	48 90	52	8	85 10	44 10
	14	24 90	30 36		20	47 20	55 90		10	89 00	48 60
	16	28 80	34 50	40	6	18 60	23 40		12	43 30	53 62
	18	32 90	38 96		8	21 80	27 20		14	49 80	60 46
	20	38 40	45 06		10	24 80	30 80		16	55 80	67 90
34	4	10 40	14 00		12	28 80	35 62		18	62 40	75 96
	6	13 70	17 30		14	32 70	40 06		20	71 80	85 46
	8	16 30	20 26		16	37 10	44 90		22	81 00	100 80
	10	19 30	23 50		18	42 80	50 70		24	91 10	116 90

Prices for larger sizes will be furnished on application.

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# THE REEVES WOOD SPLIT PULLEY.

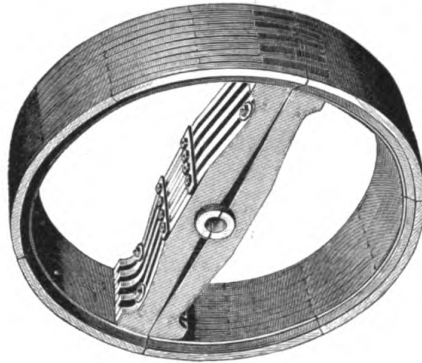


FIG. 236.

Diam. Inches.	Face Inches.	Price.	Diam. Inches.	Face Inches.	Price.	Diam. Inches.	Face Inches.	Price.	Diam. Inches.	Face Inches.	Price.	Diam. Inches.	Face Inches.	Price.	Diam. Inches.	Face Inches.	Price.
8	3	\$ 2 30	20	8	\$ 7 15	30	8	\$11 50	40	5	\$14 50	48	6	\$24 50	58	6	\$ 40 00
	4	2 50		10	8 00		10	13 25		6	16 00		8	28 00		8	43 50
	5	2 70		12	9 50		12	16 50		8	19 00		10	32 50		10	47 50
	6	2 90		14	11 00		14	21 00		10	22 50		12	36 00		12	52 25
	8	3 30		16	12 60		16	25 40		12	26 75		14	41 00		14	57 75
				18	14 50		18	30 00		14	31 00		16	45 00		16	64 25
10	3	2 50					20	33 00		16	36 75		18	50 00		18	73 75
	4	2 70	22	4	4 95					18	41 50		20	58 00		20	83 75
	5	2 90		5	5 90	32	4	8 80		20	46 50		22	66 00		22	93 75
	6	3 10		6	6 85		5	9 49		22	51 50		24	74 00		24	103 75
	8	3 50		8	8 00		6	10 30									
	10	3 90		10	9 40		8	12 90	42	4	15 50	50	6	27 25	60	6	42 50
				12	11 20		10	15 00		5	16 05		8	31 50		8	47 00
12	3	2 80		14	13 00		12	17 90		6	17 50		10	35 50		10	51 50
	4	2 95		16	14 20		14	22 75		8	21 50		12	39 00		12	56 00
	5	3 20		18	15 00		16	27 75		10	25 00		14	44 00		14	62 00
	6	3 55					18	32 25		12	29 00		16	50 00		16	68 50
	8	3 85	24	4	5 40		20	36 25		14	33 50		18	56 00		18	78 00
	10	4 30		5	6 35					16	38 50		20	64 00		20	88 00
	12	5 10		6	7 30	34	4	9 60		18	43 75		22	72 00		22	98 00
				8	8 80		5	10 50		20	48 75		24	80 00		24	108 00
14	3	3 00		10	10 45		6	11 50		22	53 75						
	4	3 25		12	12 70		8	14 50		24	58 75	52	6	31 00	66	6	47 00
	5	3 65		14	15 10		10	17 00		26	63 75		8	34 00		8	51 50
	6	4 10		16	17 50		12	20 00					10	38 00		10	57 00
	8	4 70		18	19 95		14	24 50	44	4	17 00		12	42 00		12	63 50
	10	5 35		20	23 00		16	30 00		5	17 50		14	46 00		14	71 50
	12	6 00					18	34 50		6	19 50		16	52 50		16	80 00
	14	6 60	26	4	6 35		20	38 50		8	23 75		18	60 00		18	89 00
				5	7 00					10	27 50		20	68 00		20	101 00
16	3	3 30		6	7 95	36	4	10 60		12	31 50		22	76 00		22	113 00
	4	3 65		8	9 60		5	11 90		14	36 00		24	84 00		24	125 00
	5	4 05		10	11 40		6	13 00		16	40 75						
	6	4 60		12	14 20		8	16 00		18	46 00	54	6	33 50	72	6	51 50
	8	5 50		14	17 50		10	19 10		20	52 00		8	37 50		8	57 00
	10	6 30		16	20 80		12	22 50		22	58 00		10	41 00		10	64 00
	12	7 00		18	24 10		14	26 50		24	64 00		12	45 00		12	71 50
	14	7 70		20	27 60		16	32 40		26	70 00		14	49 50		14	80 00
	16	9 00					18	37 00					16	55 50		16	90 00
			28	4	7 20		20	41 00	46	4	19 00		18	64 50		18	100 00
18	3	3 70		5	7 80					5	19 50		20	72 50		20	112 00
	4	4 05		6	8 60	38	4	13 00		6	22 00		22	80 50		22	124 00
	5	4 55		8	10 30		5	13 75		8	26 00		24	88 50		24	136 00
	6	5 10		10	12 10		6	14 50		10	30 00						
	8	6 20		12	15 25		8	17 60		12	33 50	56	6	39 00	78	8	79 00
	10	7 10		14	19 00		10	20 70		14	38 50		8	40 50		10	87 00
	12	8 00		16	23 00		12	24 75		16	43 00		10	44 50		12	95 00
	14	9 00		18	26 90		14	28 50		18	48 00		12	48 50		14	104 00
	16	10 70		20	30 90		16	34 50		20	54 00		14	53 50		16	114 00
							18	39 25		22	60 00		16	60 00		18	124 00
20	4	4 45	30	4	8 00		20	43 25		24	66 00		18	69 50		20	136 00
	5	5 20		5	8 60								20	79 50		22	148 00
	6	6 00		6	9 40	40	4	14 00		4	21 00		22	89 50		24	160 00
										5	22 00		24	99 50			

## TWIST DRILLS.

## TAPER SHANK DRILLS.



FIG. 237.

Size.....	$\frac{1}{8}$	9-32	5-16	11-32	$\frac{3}{16}$	13-32	7-16	15-32	$\frac{1}{2}$	17-32	9-16	19-32	$\frac{5}{8}$	21-32
Price, each	60	65	70	75	80	85	90	95	1 00	1 10	1 20	1 30	1 40	1 50

Size.....	11-16	23-32	$\frac{3}{8}$	25-32	13-16	27-32	$\frac{7}{8}$	29-32	15-16	31-32	1	11-32	11-16	13-32
Price, each	1 60	1 70	1 85	2 00	2 15	2 30	2 45	2 60	2 75	2 90	3 00	3 20	3 40	3 60

Size.....	1 $\frac{1}{8}$	15-32	13-16	17-32	1 $\frac{1}{4}$	19-32	15-16	111-32	1 $\frac{3}{8}$	113-32	17-16	115-32	1 $\frac{1}{2}$	117-32
Price, each	3 80	4 00	4 20	4 40	4 50	4 65	4 80	5 00	5 20	5 40	5 60	5 80	6 00	6 30

Size.....	19-16	119-32	1 $\frac{5}{8}$	121-32	111-16	123-32	1 $\frac{3}{4}$	125-32	113-16	127-32	1 $\frac{7}{8}$	129-32	115-16	131-32
Price, each	6 60	6 90	7 20	7 50	7 80	8 10	8 40	8 60	8 80	9 00	9 20	9 35	9 50	9 65

Size.....	2	21-32	21-16	2 $\frac{1}{8}$	23-16	2 $\frac{1}{4}$	25-16	2 $\frac{3}{8}$	27-16	2 $\frac{1}{2}$				
Price, each	9 80	10 20	10 60	11 20	12 00	12 80	13 60	14 40	15 00	15 60				

## STRAIGHT SHANK DRILL.



FIG. 238.

Size.....	1-16	5-64	3-32	7-64	$\frac{1}{8}$	9-64	5-32	11-64	3-16	13-64	7-32	15-64	$\frac{1}{4}$	17-64	9-32	19-64	5-16	21-64	11-32
Price, each	09	10	11	12	13	15	16	18	20	21	23	26	28	30	32	35	37	40	42

Size.....	23-64	$\frac{3}{8}$	25-64	13-32	27-64	7-16	29-64	15-32	31-64	$\frac{1}{2}$									
Price, each	45	48	50	53	55	59	63	65	67	70									

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## TWIST DRILLS.

DRILLS FITTING BLACKSMITH'S DRILL PRESSES.



FIG. 239.

Size.....	$\frac{1}{8}$	5-32	3-16	7-32	$\frac{1}{4}$	9-32	5-16	11-32	$\frac{3}{8}$	13-32	7-16	15-32	$\frac{1}{2}$	17-32	9-16	19-32	$\frac{5}{8}$	21-32	11-16	$\frac{3}{4}$
Price, each	45	48	50	55	60	65	70	73	75	78	80	83	85	88	90	95	1 05	1 10	1 15	1 25

The above Drills have Shanks  $2\frac{1}{2}$  inches long and  $\frac{1}{2}$  inch diameter.

## BIT STOCK DRILLS.

For Metal or Wood.



FIG. 240.

Size. ....	1-16	3-32	$\frac{1}{8}$	5-32	3-16	7-32	$\frac{1}{4}$	9-32	5-16	11-32	$\frac{3}{8}$	13-32	7-16	15-32	$\frac{1}{2}$	17-32	9-16	19-32	$\frac{5}{8}$
Price, each..	14	16	20	24	29	33	38	43	48	54	62	68	75	82	87	92	1 20	1 30	1 35

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## REAMERS.

## SELF-FEEDING REAMER.

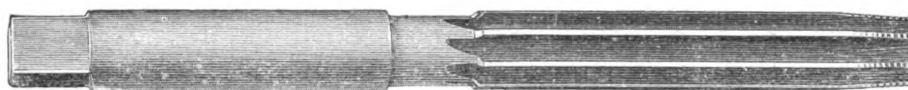


FIG. 241.

Size.....	$\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$	9-16	$\frac{5}{8}$	11-16	$\frac{3}{4}$	13-16	$\frac{7}{8}$	15-16	1
Price, each.....	1 40	1 50	1 60	1 75	1 90	2 00	2 20	2 40	2 60	2 80	3 10	3 40	3 70

Size.....	1 1-16	$1\frac{1}{8}$	1 3-16	$1\frac{1}{4}$	1 5-16	$1\frac{3}{8}$	1 7-16	$1\frac{1}{2}$	1 9-16	$1\frac{5}{8}$	1 11-16	$1\frac{3}{4}$	1 13-16	$1\frac{7}{8}$	1 15-16	2
Price, each....	4 00	4 30	4 60	4 90	5 20	5 60	6 00	6 40	6 80	7 20	7 60	8 00	8 40	8 80	9 20	9 60

## FLUTED CHUCKING REAMER.

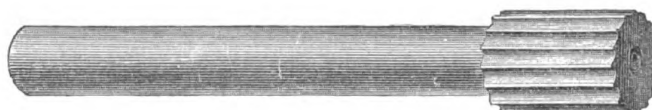


FIG. 242.

Size.....	$\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$	9-16	$\frac{5}{8}$	11-16	$\frac{3}{4}$	13-16	$\frac{7}{8}$	15-16	1	1 1-16	$1\frac{1}{8}$	1 3-16
Price, each.....	90	1 00	1 10	1 20	1 30	1 40	1 50	1 60	1 70	1 85	2 00	2 15	2 30	2 45	2 60	2 75

Size.....	$1\frac{1}{4}$	1 5-16	$1\frac{3}{8}$	1 7-16	$1\frac{1}{2}$	1 9-16	$1\frac{5}{8}$	1 1-16	$1\frac{3}{4}$	1 13-16	$1\frac{7}{8}$	1 15-16	2
Price, each.....	2 90	3 05	3 20	3 35	3 50	3 65	3 80	4 00	4 20	4 40	4 60	4 80	5 00

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## REAMERS.

## ROSE CHUCKING REAMER.

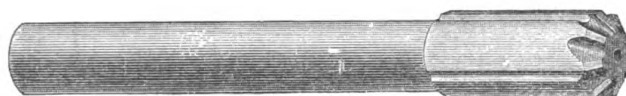


FIG. 243.

Size.....	$\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$	9-16	$\frac{5}{8}$	11-16	$\frac{3}{4}$	13-16
Price, each.....	80	90	1 00	1 10	1 20	1 30	1 40	1 50	1 60	1 70
Size.....	$\frac{7}{8}$	15-16	1	1 1-16	$1\frac{1}{8}$	1 3-16	$1\frac{1}{4}$	1 5-16	$1\frac{3}{8}$	1 7-16
Price, each.....	1 80	1 95	2 10	2 25	2 40	2 55	2 70	2 85	3 00	3 15
Size.....	$1\frac{1}{2}$	1 9-16	$1\frac{5}{8}$	1 11-16	$1\frac{3}{4}$	1 13-16	$1\frac{7}{8}$	1 15-16	2	
Price, each.....	3 30	3 45	3 60	3 75	3 90	4 05	4 20	4 40	4 60	

## TAPER REAMER FOR SOCKETS.



FIG. 244.

Number.....	1	3	5	8	12
Price, each.....	1 00	1 50	2 00	3 00	5 50
Lengths.....	$2\frac{1}{2}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$6\frac{3}{4}$	$13\frac{3}{8}$
Diameter at small end.....	0.146	0.183	0.240	0.398	0.842

RICHMOND, VIRGINIA.

## STEEL SOCKETS.

FOR TAPER SHANK DRILLS.

Morse Taper.



FIG. 245.

No 1 Holds $\frac{1}{4}$ to 19-32 in., inclusive, price.....	\$ 1 20
No. 2 Holds $\frac{5}{8}$ to 29-32 in., " " .....	1 80
No. 3 Holds 15-16 to $1\frac{1}{4}$ in., " " .....	2 50
No. 4 Holds 1 9-32 to 2 in., " " .....	4 00
No. 5 Holds 2 1-16 to $2\frac{1}{2}$ in., " " .....	7 50

## ADJUSTABLE TAP WRENCH.



FIG. 246.

Size A, length $10\frac{1}{2}$ inches, for Taps 3-16 to $\frac{1}{2}$ inch, price.....	\$ 3 00
Size B, length 15 inches, for Taps $\frac{1}{4}$ to $\frac{3}{4}$ inch, price.....	3 50
Size C, length 20 inches, for Taps $\frac{3}{8}$ to 1 inch, price.....	5 00

## RATCHET DRILLS.



FIG. 247.

Size .....	$\frac{3}{8}$ to $\frac{5}{8}$	$\frac{3}{4}$ to 1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$
Each.....	40	45	50	55	60	65

RICHMOND, VIRGINIA.

## PACKER RATCHET.

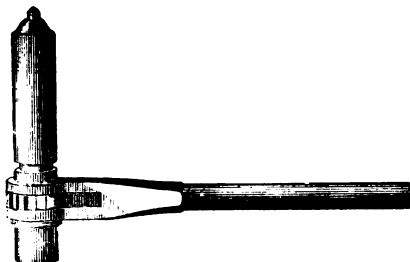


FIG. 248.

No. 1, 10 inch handles, price each.....	\$ 10 50
" 2, 12        "        " .....	13 50
" 3, 15        "        " .....	16 00
" 4, 17        "        " .....	19 00
" 5, 20        "        " .....	23 00

## BOILER RATCHETS.

No. 1, 10 inch handles, price each.....	9 00
" 2, 13        "        " .....	10 50

## FORBES &amp; CURTIS IMPROVED RATCHETS.

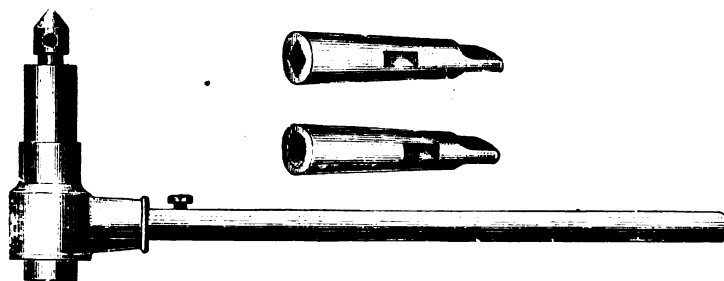


FIG. 249.

No. 2, takes Taper Shank Twist Drills, from $\frac{1}{4}$ to $\frac{3}{8}$ , inclusive. Price each.....	\$ 6 50
No. 3, takes Taper Shank Twist Drills, from $\frac{3}{8}$ to $1\frac{1}{4}$ , inclusive.        " .....	8 00
No. 4, Boiler Maker Ratchet, Square Socket only.        " .....	7 00

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## BLACKSMITH DRILLS.

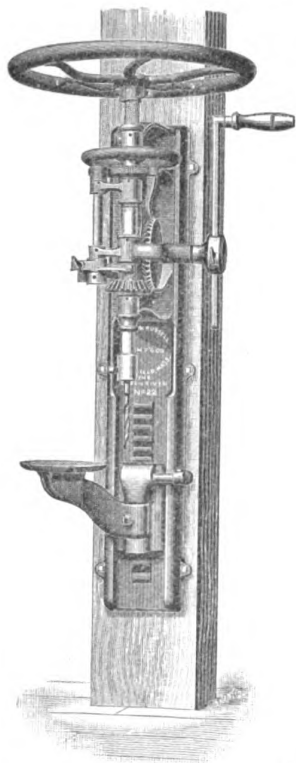


FIG. 250.

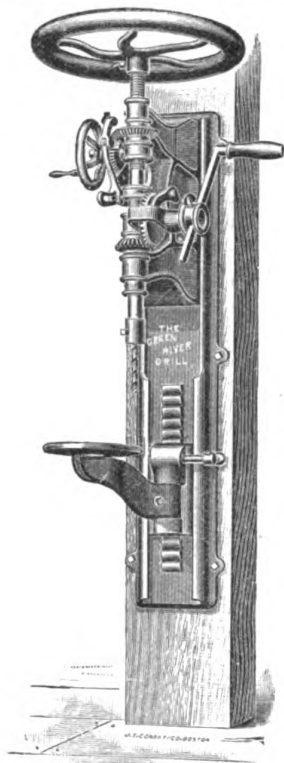


FIG. 251.

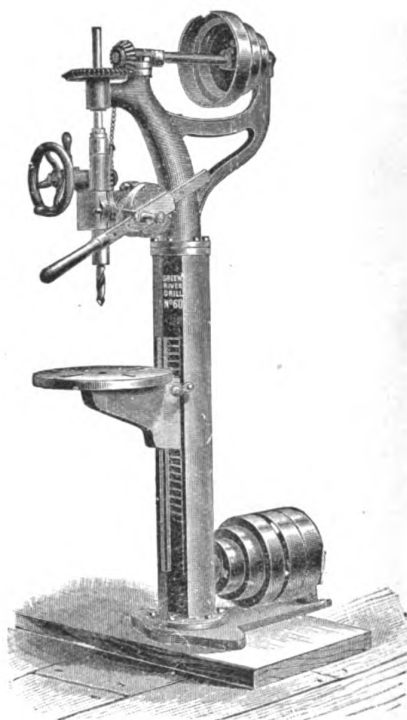


FIG. 252.

No. 22, Self-Feeding Drill.....	20 00
" 21, " ".....	28 00
" 60, " Power Drill.....	100 00

For other Goods in this line, see Special Catalogue.

## SHIP AUGER.

WITH SCREW.

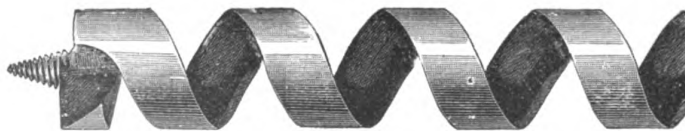


FIG. 253.

Size, Inches.....	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½-8ths
Price, per dozen, 7.50	9.00	9.00	10.50	10.50	12.00	12.00	13.50	13.50	15.00	15.00	16.50	16.50	18.00	

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## HAND BORING MACHINES.

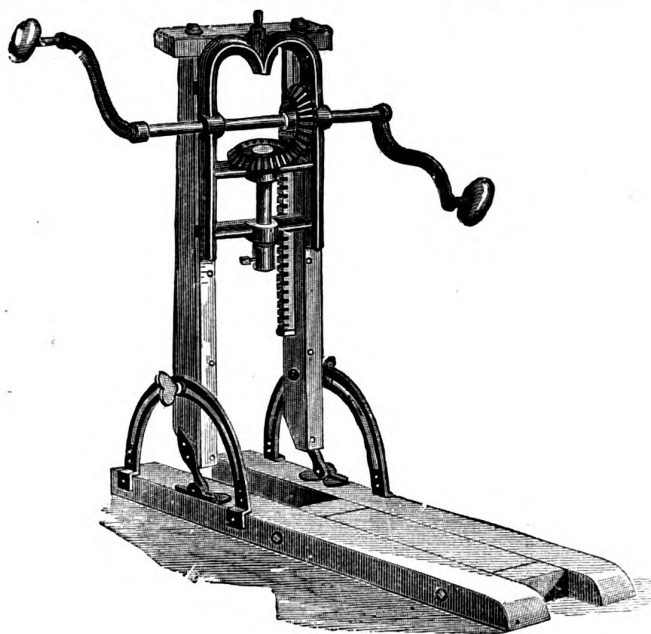


FIG. 254.

No. 4, Upright, without Augers.....	\$ 5.50 each	No. 1, Angular, without Augers.....	\$ 6.75 each
No. 4, " with " sets 18-4	10.00 "	No. 1, " with " sets 18-4	11.25 "
No. 4, " " " " 41-4	15.75 "	No. 1, " " " " 41-4	17.00 "

## BELAND TRACK DRILL.

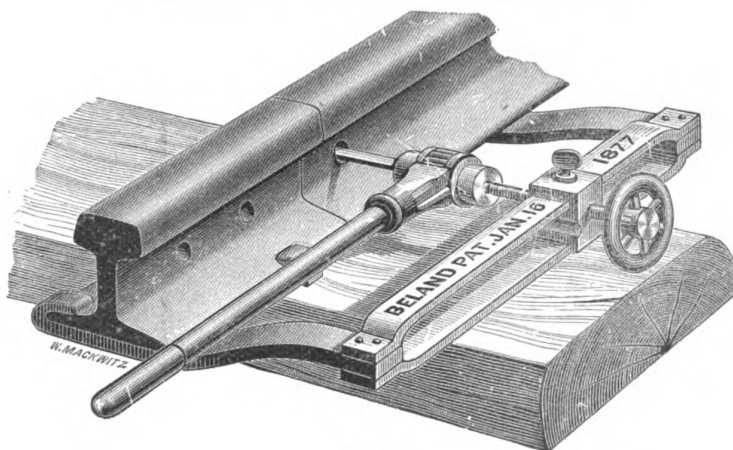


FIG. 255.

Price, each.....\$10 00

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## BREAST DRILL.

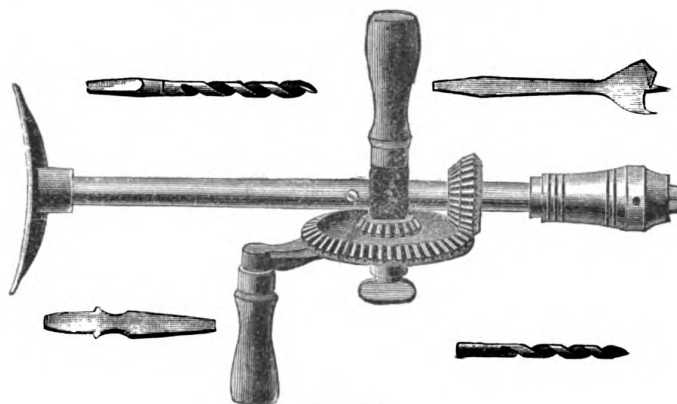


FIG. 256.

Fig. 256—Price, each.....\$3 00

## BITT OR DRILL BRACES.

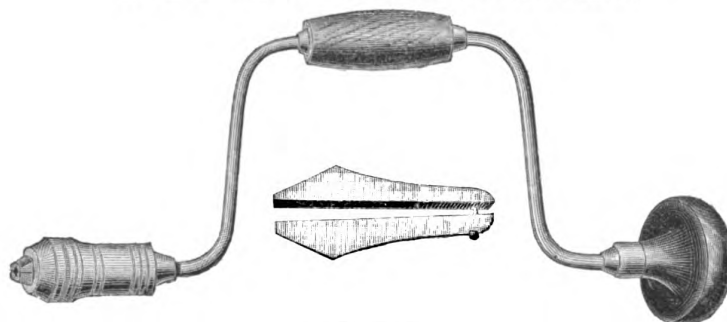


FIG. 257.

Fig. 257—Price, per dozen, plain, 10-inch sweep.....\$27 00

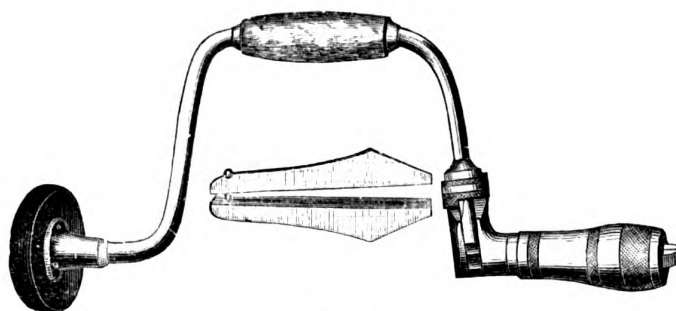


FIG. 258.

Fig. 258—Price, per dozen, Ratchet, 10-inch sweep.....\$36 00

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## HAND TAPS.

TAPER.



Fig. 259.

PLUG.



Fig. 260.

BOTTOMING.



Fig. 261.

Diameter.	No. Threads to inch.	Price Each.	Price per Set	Diameter.	No. Threads to Inch.	Price Each.	Price per Set
$\frac{1}{4}$ .....	18 and 20	\$ .45	\$ 1.35	$1\frac{1}{8}$ .....	9	\$ 1.80	\$ 5.40
$\frac{5}{16}$ .....	16 " 18	.50	1.50	1.....	8	2.00	6.00
$\frac{3}{8}$ .....	14 " 16	.55	1.65	$1\frac{1}{4}$ .....	7 and 8	2.25	6.75
$\frac{7}{8}$ .....	12 " 14	.60	1.80	$1\frac{3}{4}$ .....	7	2.60	7.80
$\frac{1}{2}$ .....	12 " 13	.70	2.10	$1\frac{1}{2}$ .....	6	3.00	9.00
$\frac{9}{16}$ .....	12 " "	.80	2.40	$1\frac{7}{8}$ .....	6	3.50	10.50
$\frac{11}{16}$ .....	10 " 11	.90	2.70	$1\frac{5}{8}$ .....	5 " 5 $\frac{1}{2}$	4.20	12.60
$\frac{13}{16}$ .....	11	1.05	3.15	$1\frac{1}{2}$ .....	5	5.00	15.00
$\frac{15}{16}$ .....	10	1.20	3.60	$1\frac{3}{4}$ .....	4 $\frac{1}{2}$ "	5.80	17.40
$\frac{17}{16}$ .....	10	1.40	4.20	2.....	4 $\frac{1}{2}$	6.70	20.10
$\frac{19}{16}$ .....	9 " 10	1.60	4.80				

## MACHINE TAPS.



Fig. 262.

Diameter ...	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2		
Price each..	60	70	80	90	1.00	1.15	1.30	1.45	1.60	1.80	2.10	2.40	2.80	3.20	3.70	4.20	4.70	5.30	6.00	6.80	7.70

Special Taps furnished on application.

RICHMOND, VIRGINIA.



## BLACKSMITHS' TAPS.

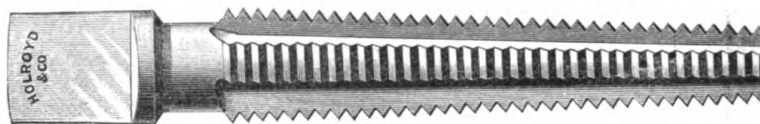


FIG. 263.

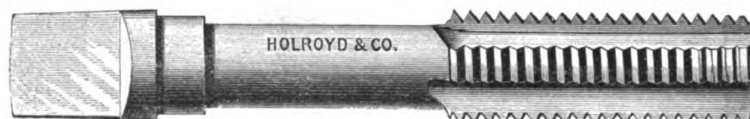


FIG. 264.

Size.	NUMBER OF THREADS TO INCH.				Price each.
	Right.	Taps in Each Box.	Left.	Taps in Each Box.	
$\frac{1}{8}$ inch.....	30 and 32.....	6			\$ 0 30
3-16 ".....	24, 26 and 28.....	6			30
$\frac{1}{4}$ ".....	16, 18, 20, 22, 24 and 26.....	6			30
5-16 ".....	14, 16, 18, 20 and 22.....	6			30
$\frac{3}{8}$ ".....	12, 14, 16 and 18.....	6			35
7-16 ".....	12, 14, 16 and 18.....	6	14.....	6	40
$\frac{1}{2}$ ".....	10, 12, 14 and 16.....	6	12 and 14.....	4	40
9-16 ".....	12 and 14.....	6	12.....	4	50
$\frac{5}{8}$ ".....	10, 11, 12 and 14.....	6	10 and 12.....	4	50
1 ".....	7, 8, 9, 10 and 12.....	6	10 and 12.....	4	65
$1\frac{1}{8}$ ".....	8, 9 and 10.....	4	9.....	4	90
$1\frac{1}{4}$ ".....	7, 8, 9 and 10.....	2	8 and 9.....	2	1 25
$1\frac{3}{8}$ ".....	6, 7, 8 and 9.....	2	8 and 9.....	2	1 75
$1\frac{1}{2}$ ".....	6, 7 and 8.....	2	6, 7 and 8.....	2	3 00

## SOLID BOLT DIES.

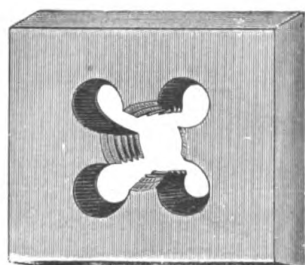


FIG. 265.

Diameter.	No. Threads to inch.	Size of Square.	Price each.
$\frac{1}{8}$	20	$2\frac{1}{2}$	\$1 80
5-16	18	$2\frac{1}{2}$	1 80
	16	$2\frac{1}{2}$	1 80
7-16	14	$2\frac{1}{2}$	1 80
	12	$2\frac{1}{2}$	1 80
	11	$2\frac{1}{2}$	2 00
	10	$2\frac{1}{2}$	2 20
	9	$2\frac{1}{2}$	2 40
1	8	$2\frac{1}{2}$	2 70
$1\frac{1}{8}$	7	$2\frac{1}{2}$	3 00
$1\frac{1}{4}$	7	$2\frac{1}{2}$	3 30
$1\frac{3}{8}$	6	$2\frac{1}{2}$	3 60
$1\frac{1}{2}$	6	3	3 90
$1\frac{5}{8}$	$5\frac{1}{2}$	3	4 20
$1\frac{3}{4}$	5	3 & $1\frac{1}{2}$ thick.	5 40
$1\frac{7}{8}$	5	$3\frac{1}{2}$ & $1\frac{1}{2}$ " "	6 50
2	$4\frac{1}{2}$	$3\frac{1}{2}$ & 3 " "	7 50

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## BLACKSMITH'S DIES.

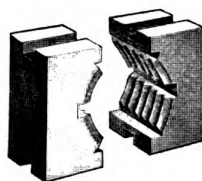


FIG. 266.

For No. 1	or 2	Stock.....	Price per pair.	Price per full set.
" 3	" 4	" .....	\$3 00	\$12 00
" 5	" 5½	" .....	2 50	10 00
" 6	"	" .....	2 00	8 00
" 7	" 9	" .....	2 00	6 00
" 11	" 15	" .....	1 20	3 50
" 17	" 19	" .....	1 20	3 00
" 21	" 23	" .....	85	2 50
" 25, 27	" 32	" .....	85	2 00
" 33	"	" .....	75	2 25
" 34, 34A, 34B	"	" .....	75	1 50
" 35, 37, 38, 41, 42, 41A, 41B, 37A, 37B,	Stock.....	" .....	75	2 00
" 45	or 47	Stock .....	75	1 50
" 49	" 51	" .....	75	2 25
" 53	" 55	" .....	75	2 00
" 60		" .....	75	1 50
				3 00

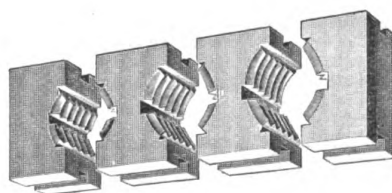


FIG. 267.

RICHMOND, VIRGINIA.

No.		PRICE.
1	Cuts 2 in. to 1 in. Right Hand, $4\frac{1}{2}$ and 7 threads to inch. " " 1 " Left " $4\frac{1}{2}$ and 7 " "	\$60 00
2	Cuts 2 in. to $\frac{1}{8}$ in. Right Hand, $4\frac{1}{2}$ , 6, 7, and 8 threads to inch. 8 Taps and 4 pairs of Dies.	60 00
3	Cuts $1\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 6 and 8 threads to inch. " " $1\frac{1}{2}$ " " Left " 6 and 8 " "	45 00
4	Cuts $1\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 6, 7, 8, and 9 threads to inch. 8 Taps and 4 pairs of Dies.	45 00
5	Cuts $1\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 8 and 9 threads to inch. " " $1\frac{1}{2}$ " " Left " 8 and 9 " "	35 00
5 $\frac{1}{2}$	Cuts $1\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 6, 7, 8 and 9 threads to inch. 8 Taps and 4 pairs of Dies.	35 00
7	Cuts $1\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 8 and 10 threads to inch. " " $1\frac{1}{2}$ " " Left " 8 " "	12 00
9	Cuts $1\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 8, 10, and 12 threads to inch. 6 Taps and 3 pairs of Dies.	12 00
17	Cuts 1 in. to $\frac{1}{8}$ in. Right Hand, 9 and 12 threads to inch. " 1 " " Left " 9 and " "	9 00
19	Cuts 1 in. to $\frac{1}{8}$ in. Right Hand, 9, 12, and 14 threads to inch. 6 Taps and 3 pairs of Dies.	9 00
25	Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 10 and 16 threads to inch. " " $\frac{1}{2}$ " " Left " 10 " "	6 50
27	Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 10, 12, and 16 threads to inch. 6 Taps and 3 pairs of Dies.	6 50
45	Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 12 and 16 threads to inch. " " $\frac{1}{2}$ " " Left " 12 " "	5 50
47	Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 12, 14, and 18 threads to inch. 6 Taps and 3 pairs of Dies.	5 50
49	Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 14 and 18 threads to inch. " " $\frac{1}{2}$ " " Left " 14 " "	4 50
51	Cuts $\frac{1}{2}$ in. to $\frac{3}{16}$ in. Right Hand 14, 18 and 22 threads to inch. 6 Taps and 3 pairs of Dies.	4 50
60	Cuts $\frac{1}{2}$ in. to $\frac{1}{8}$ in. Right Hand, 10, 12, 14 and 18 threads toinch. 6 Taps and 4 pairs of Dies.	6 50

No.		Price.
6	Cuts $1\frac{1}{8}$ in. to 1 in. Right Hand, 8 threads to inch. Left " 8 " " .....	\$20 00
11	Cuts $1\frac{1}{4}$ in. to $\frac{7}{8}$ in. Right Hand, 8 and 10 threads to inch. Left " 8 " " .....	10 00
15	Cuts $1\frac{1}{4}$ in. to $\frac{1}{2}$ in. Right Hand, 8, 10, and 12 threads to inch. 5 Taps and 3 sets of Dies. ....	10 00
21	Cuts 1 in. to $\frac{1}{2}$ in. Right Hand, 9 and 12 threads to inch. Left " 9 " " .....	6 00
23	Cuts 1 in. to $\frac{1}{2}$ in. Right Hand, 9, 10, and 14 threads to inch. 3 Taps and 3 sets of Dies. ....	5 00
32	Cuts $\frac{1}{2}$ in. to $\frac{1}{4}$ in. Right Hand, 10 and 14 threads to inch. Left " 10 and 14 " " .....	5 00
33	Cuts $\frac{1}{2}$ in. to $\frac{1}{4}$ in. Right Hand, 10 threads to inch. Left " 10 " " .....	4 00
34	Cuts $\frac{1}{2}$ in. to $\frac{5}{16}$ in. Right Hand, 10, 12, and 16 threads to inch. 3 Taps and 3 sets of Dies. ....	4 50
34A	Cuts $\frac{1}{2}$ in. to $\frac{5}{16}$ in. Right Hand, 10, 12 and 14 threads to inch. 3 Taps and 3 sets of Dies. ....	4 50
34B	Cuts $\frac{1}{2}$ in. to $\frac{5}{16}$ in. Right Hand, 12, 14, and 16 threads to inch. 3 Taps and 3 sets of Dies. ....	4 50
35	Cuts $\frac{1}{2}$ in. to $\frac{3}{8}$ in. Right Hand, 10 and 14 threads to inch. 2 Taps and 2 sets of Dies. ....	4 00
37	Cuts $\frac{1}{2}$ in. to $\frac{3}{16}$ in. Right Hand 14, 18, and 22 threads to inch. 6 Taps and 3 sets of Dies. ....	4 25
37A	Cuts $\frac{1}{2}$ in. to $\frac{3}{16}$ in. Right Hand, 12, 14, and 16 threads to inch. 6 Taps and 3 sets of Dies. ....	4 25
37B	Cuts $\frac{1}{2}$ in. to $\frac{3}{16}$ in. Right Hand, 14, 16, and 18 threads to inch. 6 Taps and 3 sets of Dies. ....	4 25
38	Cuts $\frac{1}{2}$ in. to $\frac{5}{16}$ in. Right Hand, 12 and 18 threads to inch. Left " 12 " " .....	4 50
41	Cuts $\frac{1}{2}$ in. to $\frac{1}{4}$ in. Right Hand, 16, 20, and 26 threads to inch. 6 Taps and 3 sets of Dies. ....	3 25
41A	Cuts $\frac{1}{2}$ in. to $\frac{1}{4}$ in. Right Hand, 14, 16, and 18 threads to inch. 6 Taps and 3 sets of Dies. ....	3 25
41B	Cuts $\frac{1}{2}$ in. to $\frac{1}{4}$ in. Right Hand, 16, 18, and 20 threads to inch. 6 Taps and 3 sets of Dies. ....	3 25
42	Cuts $\frac{1}{2}$ in. to $\frac{3}{16}$ in. Right Hand, 14 and 20 threads to inch. $\frac{1}{2}$ in. Left " 14 " " .....	3 50
53	Cuts $\frac{5}{16}$ in. to $\frac{1}{16}$ in. Right Hand, 16, 20, 24, 32 threads to inch. 4 Taps and 4 sets of Dies. ....	2 75
55	Cuts $\frac{5}{16}$ in. to $\frac{1}{16}$ in. Right Hand, 18, 24, and 32 threads to inch. 4 Taps and 3 sets of Dies. ....	2 50

RICHMOND, VIRGINIA.

## GREEN RIVER SCREW PLATE.



FIG. 270.

SET No. 1.—3-16 to 7-16 inch. Stock 10 inches long. With both Stock and Brace Holder for dies. Five sizes, 3-16,  $\frac{1}{4}$ , 5-16,  $\frac{3}{8}$ , 7-16 inch Taps, Dies and Guides.

Complete in case.....\$10 50



FIG. 271.

SET. No. 2.— $\frac{1}{4}$  to  $\frac{3}{4}$  inch. Stock 23 inches long. Seven sizes,  $\frac{1}{4}$ , 5-16,  $\frac{3}{8}$ , 7-16,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$  inch Taps, Dies, and Guides.

Complete in case.....\$17 50



FIG. 272.

SET No. 3.— $\frac{1}{2}$  to 1 inch. Stock 29 inches long. Five sizes,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1 inch Taps, Dies, and Guides.

Complete in case..... \$20 00



FIG. 273.

Set No. 4.— $\frac{3}{8}$  to 1 inch. Stock 29 inches long. Seven sizes,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ ,  $\frac{1}{2}$ , 1 in. Taps, Dies, Guides.

Complete in case.....\$24 00

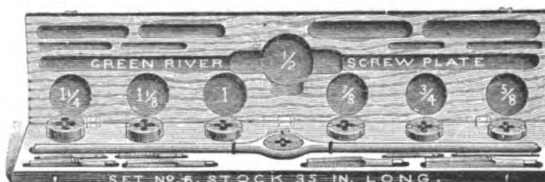


FIG. 274.

SET No. 6.— $\frac{1}{2}$  to  $1\frac{1}{4}$  inch. Stock 35 inches long. Seven sizes,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$  inch Taps, Dies and Guides.

Complete in case.....\$30 00

For other goods in this line, see Special Catalogue.

RICHMOND, VIRGINIA.

## GREEN RIVER SCREW PLATE.



FIG. 275.

SET. No. 7.— $\frac{3}{8}$  to  $1\frac{1}{4}$  inch. Stock 35 inches. Nine sizes,  $\frac{3}{8}$ , 7-16,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$  in. Taps, Dies, and Guides.

Complete, in case.....\$34 50

SET No. 8.— $\frac{1}{4}$  to  $1\frac{1}{4}$  inch. Stock 35 inches long. Eleven sizes,  $\frac{1}{4}$ , 5-16,  $\frac{3}{8}$ , 7-16,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$  inch Taps, Dies, and Guides.

Complete, in case..... \$38 50

## GREEN RIVER TAPS AND DIES.



FIG. 276.

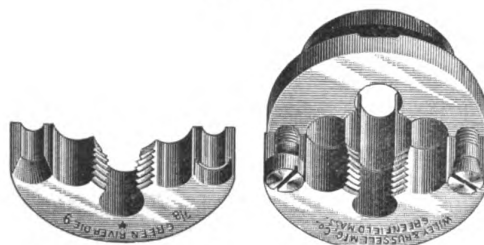


FIG. 277.

## PRICES OF TAPS AND DIES.

Sizes.....	3-16	$\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$	9-16	$\frac{5}{8}$
Taps.....	\$0 45	45	50	55	60	70	80	90
Dies .....	1 25	1 25	1 25	1 50	1 50	1 75	1 75	1 75
Sizes.....	11-16	$\frac{3}{4}$	13-16	$\frac{7}{8}$	15-16	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Taps.....	\$1 05	1 20	1 40	1 60	1 80	2 00	2 25	2 60
Dies .....	1 75	2 00	3 00	3 00	3 00	3 00	3 75	4 50

Stocks Nos. 1, 2, 3, 4, and 5, \$2.00 each. Nos. 6, 7, and 8, \$4.00 each. Guides, 25 cents each.

For other goods in this line, see Special Catalogue.

RICHMOND, VIRGINIA.

## HACK SAW.

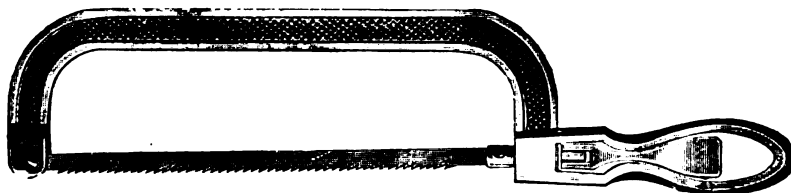


FIG. 278.

## FRAMES COMPLETE, WITH ONE-DOZEN BLADES.

Size.....	8 inches.	10 inches.	12 inches.
Price, per dozen.....	\$16 00	\$18 00	\$20 00

## EXTRA BLADES.

Size.....	8 inches.	10 inches.	12 inches.
Price, per dozen.....	\$ 0 90	\$ 1 00	\$ 1 25

## IMPROVED SPEED INDICATOR.

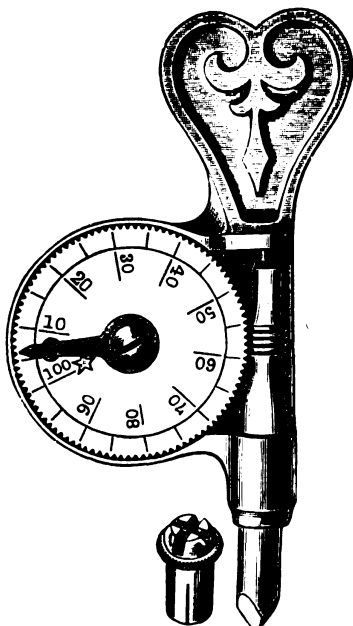


FIG. 279.

Price, each..... \$1 00

## WASHER CUTTER.

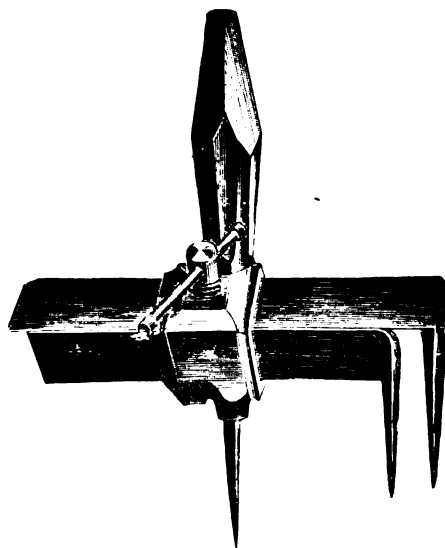


FIG. 280.

No. 31, Small, per dozen..... \$ 14 00  
 No. 31, Large, " ..... 16 00

RICHMOND, VIRGINIA.



## WRENCHES.

## COE'S GENUINE KNIFE HANDLE WRENCH.

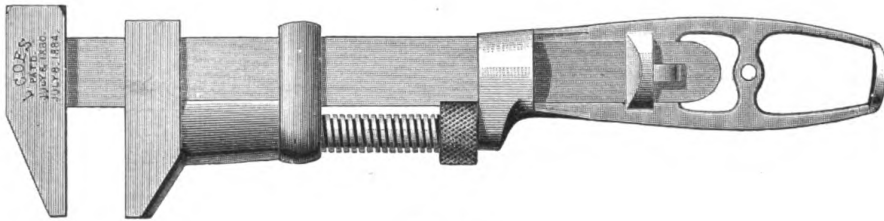


FIG. 281.

Length—Inches.....	4	6	8	10	12	15	18	21
Price, per dozen. ....	10 00	10 00	11 00	14 00	16 00	26 00	32 00	38 00

## BAXTER'S WRENCH.

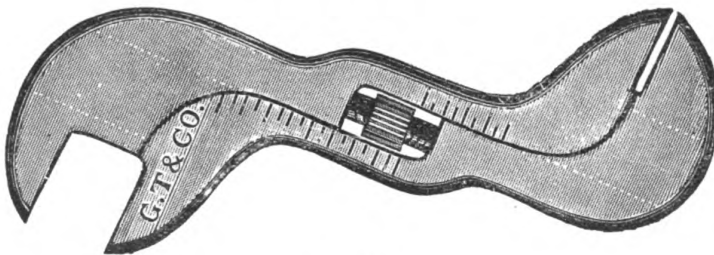


FIG. 282.

Length—Inches.....	4	6	8	10	12
Price, per dozen.....	6 00	9 00	12 00	18 00	24 00

RICHMOND, VIRGINIA.

## WRENCHES.

## ENGINEER'S WRENCHES.

Single Head.

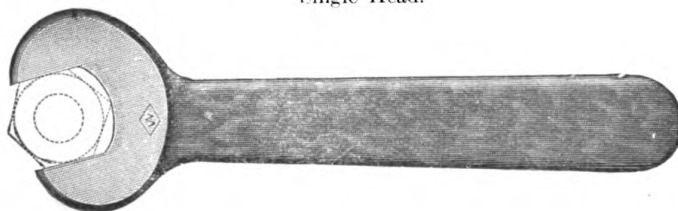


FIG. 283.

Number .....	0	1	2	3	4	5	6	7
Size ..	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$
Price, Unfinished.....	09	10	12	14	17	20	25	32
" Finished .....	18	20	24	28	34	40	50	64

Number .....	8	9	10	11	12	13	14
Size ..	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$
Price, Unfinished.....	40	50	65	85	1 10	1 40	1 75
" Finished .....	80	1 00	1 30	1 70	2 20	2 80	3 50

Double Head.

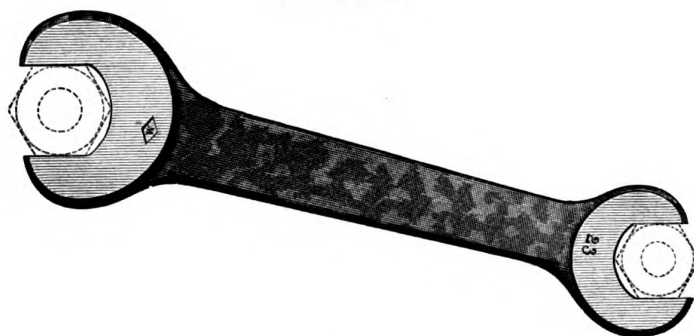


FIG. 284.

Number .....	23	26	27	28	30	31	33
Size ..	$1\frac{3}{8}$ and $\frac{1}{4}$	$1\frac{1}{2}$ and $\frac{3}{8}$	$1\frac{5}{8}$ and $\frac{1}{2}$	$1\frac{7}{8}$ and $\frac{3}{4}$	$2\frac{1}{8}$ and $\frac{1}{2}$	$2\frac{3}{8}$ and $\frac{1}{2}$	$2\frac{5}{8}$ and $\frac{3}{4}$
Price, Unfinished.....	15	20	21	23	28	30	36
" Finished .....	30	40	42	46	56	60	72

Number .....	34	35	37	39	41	43
Size ..	$2\frac{1}{2}$ and $\frac{3}{4}$	$2\frac{3}{4}$ and $\frac{1}{2}$	$3\frac{1}{8}$ and $\frac{3}{4}$	$3\frac{1}{2}$ and $\frac{3}{4}$	$3\frac{7}{8}$ and 1	1 and $1\frac{1}{8}$
Price, Unfinished.....	41	43	53	65	82	1 08
" Finished .....	82	86	1 06	1 30	1 64	2 16

RICHMOND, VIRGINIA.

BLACKSMITH'S COLD CHISEL.



FIG. 285.

BLACKSMITH'S HOT CHISEL.



FIG. 286.

Price List, Figures 285, 286..... 50c. per lb.

HARDIE.

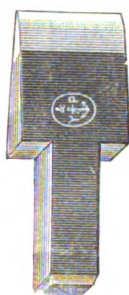


FIG. 287.

SET HAMMER.



FIG. 288.

List Price, Figures 287, 288 ..... 50c. per lb.

PUNCH.



FIG. 289.

List Price, Figure 289, Round or Square..... 55c. per lb.

RICHMOND, VIRGINIA.

BOTTOM SWEDGE.



FIG. 290.

TOP SWEDGE.



FIG. 291.

FLATTER.



FIG. 292.

List Price, Figures 290, 291, 292..... 50c. per lb.

TOP FULLER.



FIG. 293.

BOTTOM FULLER.



FIG. 294.

List Price, Figures 293, 294..... 50c. per lb.

BLACKSMITH'S BELLOWS.

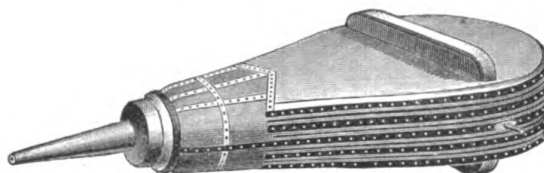


FIG. 295.

Length—Inches.....	18 to 24	26	28	30	32	34	36	38	40	42	44
Each .....	10 00	11 00	12 00	13 00	14 00	16 00	18 00	20 00	23 00	32 00	34 00

RICHMOND, VIRGINIA.

## BENCH VISES.

## STANDARD VISE.

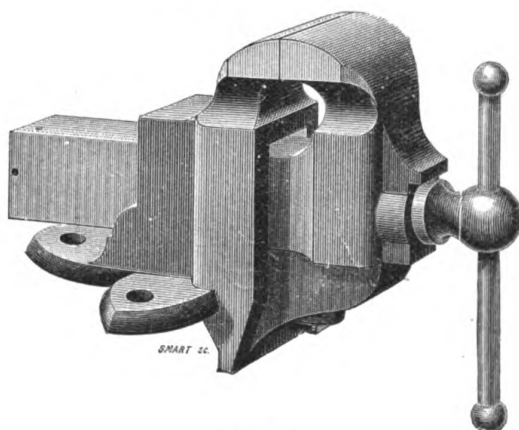


FIG. 296.

Number.	Width of Jaw.	Jaw Opens.	Weight.	Price.
89.....	2½ in.	3½ in.	15½ lbs.	\$ 4 00
90.....	3½	4	26	6 50
91.....	4	5	37	8 00
92.....	4½	5½	49	10 00
93.....	5	6½	64	12 50

## FARMERS' VISE.

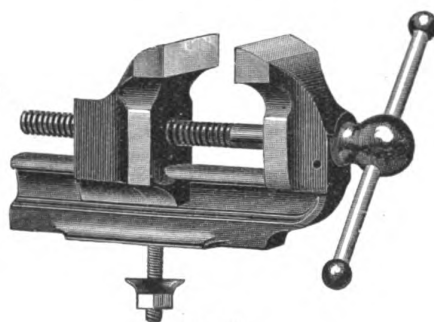


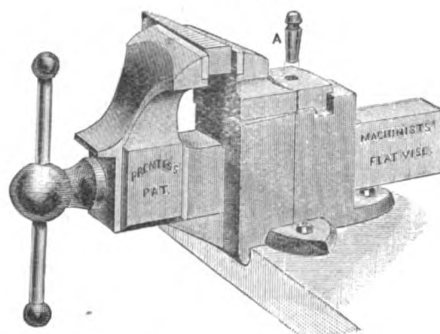
FIG. 297.

Number.	Width of Jaw.	Jaw Opens.	Weight.	Price.
70.....	3 in.	4 in.	12 lbs.	\$ 2 50
71.....	3½	5	22	3 75
72.....	4	6	34	5 50

RICHMOND, VIRGINIA.

## PRENTISS' ADJUSTABLE JAW VISES.

MACHINISTS'.

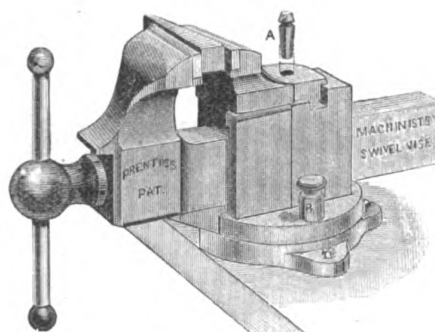


Stationary Bottom.

FIG. 298.

Number.	Width of Jaw.	Jaw Opens.	Weight.	Price.
1.....	2 $\frac{5}{8}$ in.	3 $\frac{1}{2}$ in.	13 $\frac{1}{2}$ lbs.	\$ 5 50
2.....	3 $\frac{1}{2}$	4 $\frac{3}{4}$	28	7 00
3.....	4 $\frac{1}{2}$	6	54	10 50
4.....	5 $\frac{1}{4}$	8	96	17 00
5.....	6	9	146	24 00
6.....	7	11	184	30 00

MACHINISTS'.



Swivel Bottom.

FIG. 299.

Number.	Width of Jaw.	Jaw Opens.	Weight.	Price.
18.....	2 $\frac{5}{8}$ in.	3 $\frac{1}{2}$ in.	17 lbs.	\$ 6 75
19.....	3 $\frac{1}{2}$	4 $\frac{3}{4}$	32	8 50
20.....	4 $\frac{1}{2}$	6	65	12 50
21.....	5 $\frac{1}{4}$	8	109	19 00
22.....	6	9	168	27 00
23.....	7	11	207	35 00

RICHMOND, VIRGINIA.

## SOLID BOX VISES.

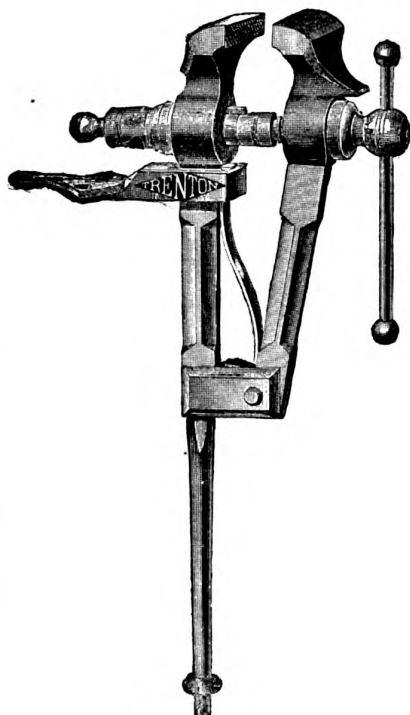


FIG. 300.

## PRICE-LIST.

NUMBER.	WIDTH OF JAW.	PRICE.
35	3 $\frac{3}{4}$	\$10 00
40	4	10 50
45	4 $\frac{1}{4}$	11 00
50	4 $\frac{1}{2}$	11 50
55	4 $\frac{3}{4}$	12 00
60	5	13 00
65	5	14 00
70	5 $\frac{1}{4}$	15 00
75	5 $\frac{1}{2}$	16 00
80	5 $\frac{3}{4}$	17 50
85	5 $\frac{1}{2}$	18 50
90	5 $\frac{3}{4}$	20 00
95	5 $\frac{3}{4}$	21 00
100	6	22 00
105	6	23 00
110	6	24 00
115	6	25 00
120	6 $\frac{1}{2}$	26 00
125	6 $\frac{1}{2}$	27 50
130	6 $\frac{1}{2}$	29 00
140	7	33 00
150	7	36 00
160	7 $\frac{1}{4}$	41 50
170	7 $\frac{1}{4}$	44 50
180	7 $\frac{3}{4}$	47 00
190	7 $\frac{3}{4}$	53 00
200	8	56 00

## ANVILS.

TRENTON.



FIG. 301.

PETER WRIGHT.

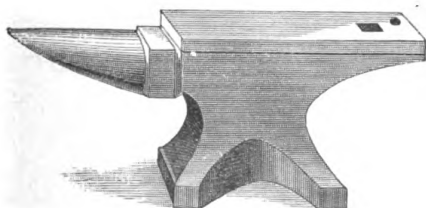


FIG. 302.

ARMITAGE.

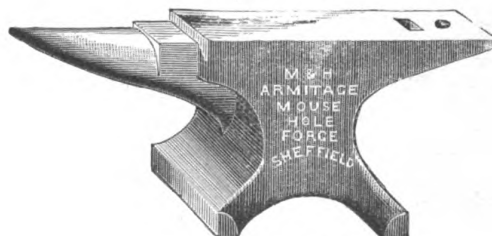


FIG. 303.

RICHMOND, VIRGINIA.



## DUDGEON'S HYDRAULIC JACKS.

PLAIN JACK.

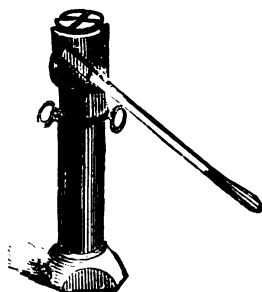


Fig. 304.

BROAD BASE JACK.

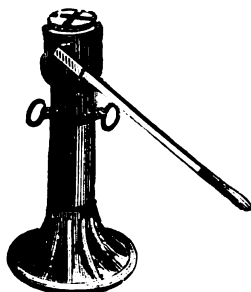


Fig. 305.

GROUND LIFTING JACK.

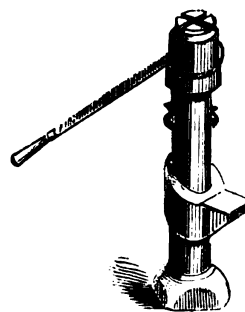


Fig. 306.

## SIZES AND PRICES OF HYDRAULIC JACKS:

To lift or press 4 tons, and run out 12 inches, and lift from the ground.....	\$ 60 00
To lift or press 7 tons, and run out 12 inches (Plain Jack).....	70 00
To lift or press 7 tons, and run out 12 inches, and lift from the ground.....	85 00
To lift or press 7 tons, and run out 12 inches, with wide base for locomotive shops.....	80 00
To lift or press 10 tons, and run out 12 inches (Plain Jack).....	80 00
To lift or press 10 tons, and run out 12 inches, and lift from the ground.....	100 00
To lift or press 10 tons, and run out 12 inches, with wide base for locomotive shops.....	95 00

Prices on other sizes on application.

## ALBANY TRACK JACKS.

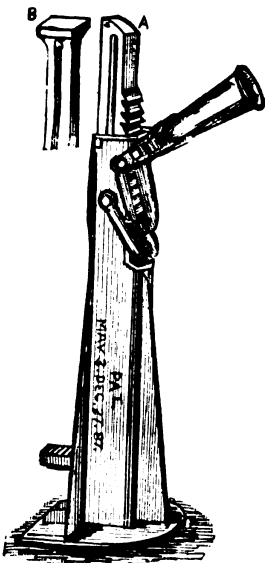


Fig. 307.

Height of Jack, with bar down.....	30 inches.
Rise of bar.....	20 "
Size of bar.....	1½ "
Weight of Jack.....	60 pounds.
Capacity.....	7 tons.

"A," Crow-bar Top; "B," Flat Top.

PRICE, - - - - - \$15 00.

RICHMOND, VIRGINIA.

## JACK SCREWS.

## BELL BOTTOM JACK SCREWS.



FIG. 308.

LENGTH OF BARREL.	DIAMETER OF SCREWS.						
	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	3
4 inch.....	2 35	2 50					
5 ".....				4 00			
6 ".....	2 50	3 00	3 25	4 00	6 10	6 90	
8 ".....	3 00	3 50	3 75	4 25	6 50	7 50	
10 ".....	3 50	3 75	4 00	4 75	7 00	8 00	
12 ".....		4 00	4 50	5 25	7 50	8 50	
14 ".....		4 25	4 75	6 00	8 00	9 00	
16 ".....		4 50	5 90	7 00	9 00	9 50	
18 ".....			6 75	7 75	9 75	10 50	17 00
20 ".....				8 00	10 00	11 00	18 00
24 ".....				10 00	12 00	13 00	19 50

## BALL-BEARING JACKS.

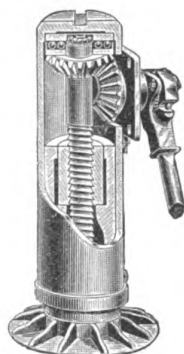


FIG. 309.

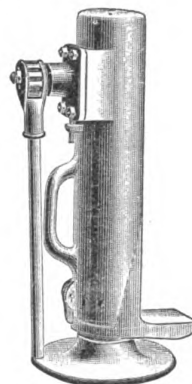


FIG. 310.

Style.	Height.	Raises.	Diameter of Base.	Weight.	Capacity.	Cost Price.	Extra Price Hook.
A .....	26 in.	14 in.	10 in.	90 lbs.	20 tons.	\$ 80 00	\$ 6 00
A .....	26 in.	14 in.	10 in.	90 lbs.	25 tons.	90 00	6 00
D .....	11 in.	6 in.	6 in.	36 lbs.	10 tons.	20 00	
G .....	22 in.	12 in.	10 in.	80 lbs.	15 tons.	25 00	5 00
J .....	18 in.	8 in.	10 in.	50 lbs.	10 tons.	18 00	4 00
DG .....	11 in.	6 in.	6 in.	35 lbs.	8 tons.	16 00	

RICHMOND, VIRGINIA.

	$\frac{1}{32}$	$\frac{1}{16}$ $\frac{3}{32}$ $\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$ $\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Figures.....	\$1 25	90	1 15	1 25	1 50	1 75	2 50	3 50	4 50	7 00
Letters.....	3 75	2 70	3 45	3 75	4 50	5 25	7 50	10 50	13 50	27 00

No. 1,	punches	$\frac{1}{2}$	inch	hole	in	$\frac{5}{16}$	iron,	$1\frac{1}{2}$	inch	from	edge	of	sheet.	Price.....	\$ 30 00
" 2,	"	$\frac{3}{4}$	"	"	$\frac{3}{16}$	"	2	"	"	"	"	"	"	"	40 00
" 3,	"	$\frac{3}{4}$	"	"	$\frac{3}{4}$	"	2 $\frac{1}{2}$	"	"	"	"	"	"	"	60 00

Extra Punch and Die, for Nos. 1 and 2, price per pair.....	\$ 4 00
“ “ “ “ No. 3, “ “ .....	5 00

# CHAIN HOISTS.

WESTERN.

**DIRECT**

FIG. 313.

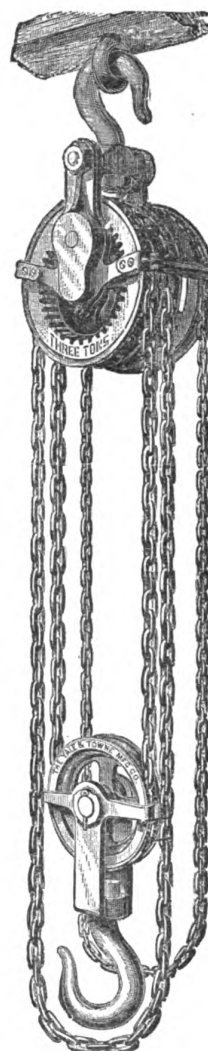
**GEARED**

FIG. 314.

Ton Capacity.	Price, Complete.	Lift.	Extra Chain, Per Foot.	Ton Capacity.	Price, Complete.	Lift.	Extra Chain, Per Foot.
$\frac{1}{8}$	\$ 10 00	5 feet.	35	1	\$ 35 00	8 feet.	40
$\frac{1}{4}$	13 00	6 "	36	2	45 00	9 "	44
$\frac{3}{8}$	15 00	7 "	38	3	60 00	10 "	48
1	20 00	8 "	40	4	80 00	11 "	54
$1\frac{1}{2}$	25 00	$8\frac{1}{2}$ "	42	5	110 00	12 "	60
2	30 00	9 "	44	6	150 00	13 "	70
3	40 00	$9\frac{1}{2}$ "	48	8	210 00	14 "	85
				10	270 00	16 "	1 00

RICHMOND, VIRGINIA.

## COLD PUNCHED NUTS.

## PLAIN.

## MANUFACTURERS' STANDARD SIZES.

Square.

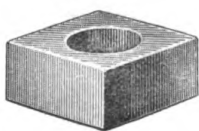


FIG. 315.

Hexagon.

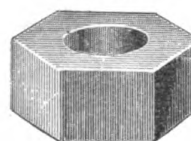


FIG. 316.

Size .....	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2
Price, Square.....	13 8	12 3	10 8	9 3	9	8 8	8 5	8 5	8 2	8 2	8 2	8 6	8 6	9 2	9 4	9 8	10	10 2
" Hexagon .....	21	17 5	13 8	11 5	11	10 6	10 1	10 1	9 7	9 7	9 7	10 1	10 1	10 3	10 9	11 2	12	12 5

## CHAMFERED AND TRIMMED.

## UNITED STATES STANDARD SIZES.

Square.

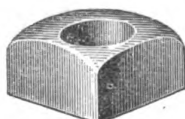


FIG. 317.

Hexagon.

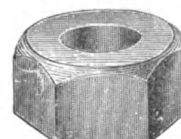


FIG. 318.

Size .....	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2
Price, Square.....	20	18	14 5	14	11 3	11 3	10	9 4	9 4	9 2	9 2	9 7	9 7	10 5	10 5	11	11	11 5
" Hexagon .....	27	24	18 5	18	14	14	12 5	10 9	10 9	10 7	10 7	11 2	11 2	12	12	13	13	13 5

## WROUGHT WASHERS.

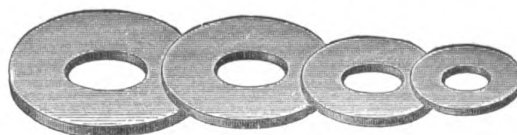


FIG. 319.

Size .....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Price.....	18	12 5	11 5	10 5	9 5	9	9	8 5	8 5	8 5	8 5	8 5	8 5	9	9	9	9

RICHMOND, VIRGINIA.

## MACHINE BOLTS.



FIG. 320.

## MANUFACTURERS' STANDARD LIST.

PRICE PER HUNDRED, WITH SQUARE HEADS AND NUTS.

Diam.	$\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$	9-16 & $\frac{3}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	
Length under head.	1 $\frac{1}{2}$	2 80	3 20	3 60	4 60	6 00	9 00	12 70	18 80	27 50
	2	2 90	3 35	3 80	4 90	6 35	9 55	13 45	19 80	28 80
	2 $\frac{1}{2}$	3 00	3 50	4 00	5 20	6 70	10 10	14 20	20 80	30 10
	3	3 10	3 65	4 20	5 50	7 05	10 65	14 95	21 80	31 40
	3 $\frac{1}{2}$	3 20	3 80	4 40	5 80	7 40	11 20	15 70	22 80	32 70
	4	3 30	3 95	4 60	6 10	7 75	11 75	16 45	23 80	34 00
	4 $\frac{1}{2}$	3 40	4 10	4 80	6 40	8 10	12 30	17 20	24 80	35 30
	5	3 50	4 25	5 00	6 70	8 45	12 85	17 95	25 80	36 60
	5 $\frac{1}{2}$	3 60	4 40	5 20	7 00	8 80	13 40	18 70	26 80	37 90
	6	3 70	4 55	5 40	7 30	9 15	13 95	19 45	27 80	39 20
	6 $\frac{1}{2}$	3 80	4 70	5 60	7 60	9 50	14 50	20 20	28 80	40 50
	7	3 90	4 85	5 80	7 90	9 85	15 05	20 95	29 80	41 80
	7 $\frac{1}{2}$	4 00	5 00	6 00	8 20	10 20	15 60	21 70	30 80	43 10
	8	4 10	5 15	6 20	8 50	10 60	16 20	22 50	31 80	44 40
	9			6 60	9 10	11 30	17 30	24 00	33 80	47 00
	10			7 00	9 70	12 00	18 40	25 50	35 80	49 60
	11			7 40	10 30	12 70	19 50	27 00	37 80	52 20
	12			7 80	10 90	13 40	20 60	28 50	39 80	54 80
	13					14 10	21 70	30 00	41 80	57 40
	14					14 80	22 80	31 50	43 80	60 00
15					15 50	23 90	33 00	45 80	62 60	
16					16 20	25 00	34 50	47 80	65 20	
17					16 90	26 10	36 00	49 80	67 80	
18					17 60	27 20	37 50	51 80	70 40	
19					18 30	28 30	39 00	53 80	73 00	
20					19 00	29 40	40 50	55 80	75 60	

Bolts with Hexagon Heads, or Nuts, - - - 10 per cent. extra.

" both " " and " - - - 20 " "

RICHMOND, VIRGINIA.

## LAG SCREWS.

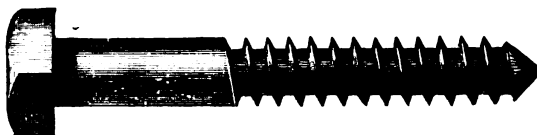


FIG. 321.

## MANUFACTURERS' STANDARD LIST.

## PRICE PER HUNDRED.

Diam.	5-16	$\frac{1}{2}$	7-16	$\frac{3}{4}$	9-16 & $\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	1
1 $\frac{1}{2}$	2 70	3 10	4 00	4 30				
2	2 90	3 30	4 25	4 65	6 50			
2 $\frac{1}{2}$	3 10	3 50	4 50	5 00	7 05	10 20		
3	3 30	3 70	4 75	5 35	7 60	10 95	16 00	
3 $\frac{1}{2}$	3 50	3 90	5 00	5 70	8 15	11 70	17 00	22 60
4	3 70	4 10	5 25	6 05	8 70	12 45	18 00	24 00
4 $\frac{1}{2}$	3 90	4 30	5 50	6 40	9 25	13 20	19 00	25 40
5	4 10	4 50	5 75	6 75	9 80	13 95	20 00	26 80
5 $\frac{1}{2}$	4 30	4 70	6 00	7 10	10 35	14 70	21 00	28 20
6	4 50	4 90	6 25	7 50	10 90	15 50	22 00	29 60
7			6 75	8 20	12 00	17 00	24 00	32 40
8			7 25	8 90	13 10	18 50	26 00	35 20
9			7 75	9 60	14 20	20 00	28 00	38 00
10				10 30	15 30	21 50	30 00	40 80
11				11 00	16 40	23 00	32 00	43 60
12				11 70	17 50	24 50	34 00	46 40

Length under head.

RICHMOND, VIRGINIA.



## CARRIAGE BOLTS.



FIG. 322.

## PRICE PER HUNDRED.

LENGTH.	3-16 and $\frac{1}{4}$	5-16	$\frac{3}{8}$	7-16	$\frac{1}{2}$	9-16 and $\frac{3}{4}$	$\frac{3}{4}$
1 to $1\frac{1}{2}$ .....	\$1 35	\$1 60	\$2 30	\$3 10	\$3 80		
$1\frac{1}{2}$ .....	1 40	1 68	2 30	3 10	3 80		
2.....	1 45	1 75	2 30	3 10	3 80		
$2\frac{1}{2}$ .....	1 50	1 83	2 40	3 23	3 96		
$2\frac{1}{2}$ .....	1 55	1 90	2 50	3 35	4 12		
$2\frac{3}{4}$ .....	1 60	1 98	2 60	3 48	4 28		
3.....	1 65	2 05	2 70	3 60	4 44	\$7 50	\$13 50
$3\frac{1}{4}$ .....	1 70	2 13	2 80	3 73	4 60	7 75	13 85
$3\frac{1}{2}$ .....	1 75	2 20	2 90	3 85	4 76	8 00	14 20
$3\frac{3}{4}$ .....	1 80	2 28	3 00	3 98	4 92	8 25	14 55
4.....	1 85	2 35	3 10	4 10	5 08	8 50	14 90
$4\frac{1}{4}$ .....	1 90	2 43	3 20	4 23	5 24	8 75	15 25
$4\frac{1}{2}$ .....	1 95	2 50	3 30	4 35	5 40	9 00	15 60
$4\frac{3}{4}$ .....	2 00	2 58	3 40	4 48	5 56	9 25	15 95
5.....	2 05	2 65	3 50	4 60	5 72	9 50	16 30
$5\frac{1}{4}$ .....	2 10	2 73	3 60	4 73	5 88	9 75	16 65
$5\frac{1}{2}$ .....	2 15	2 80	3 70	4 85	6 04	10 00	17 00
$5\frac{3}{4}$ .....	2 20	2 88	3 80	4 98	6 20	10 25	17 35
6.....	2 25	2 95	3 90	5 10	6 36	10 50	17 70
$6\frac{1}{4}$ .....	2 30	3 03	4 00	5 23	6 52	10 75	18 05
$6\frac{1}{2}$ .....	2 35	3 10	4 10	5 35	6 68	11 00	18 40
$6\frac{3}{4}$ .....	2 45	3 25	4 30	5 60	7 00	11 50	19 10
7.....	2 55	3 40	4 50	5 89	7 32	12 00	19 80
$7\frac{1}{4}$ .....	2 65	3 55	4 70	6 10	7 64	12 50	20 50
$7\frac{1}{2}$ .....	2 75	3 70	4 90	6 35	7 96	13 00	21 20
$7\frac{3}{4}$ .....	2 85	3 85	5 10	6 60	8 28	13 50	21 90
8.....	2 95	4 00	5 30	6 85	8 60	14 00	22 60
$8\frac{1}{4}$ .....	3 05	4 15	5 50	7 10	8 92	14 50	23 30
$8\frac{1}{2}$ .....	3 15	4 30	5 70	7 35	9 24	15 00	24 00
$8\frac{3}{4}$ .....	3 25	4 45	5 90	7 60	9 56	15 50	24 70
9.....	3 35	4 60	6 10	7 85	9 88	16 00	25 40
$9\frac{1}{4}$ .....	3 45	4 75	6 30	8 10	10 20	16 50	26 10
$9\frac{1}{2}$ .....	3 55	4 90	6 50	8 35	10 52	17 00	26 80
$9\frac{3}{4}$ .....	3 65	5 05	6 70	8 60	10 84	17 50	27 50
10.....	3 75	5 20	6 90	8 85	11 16	18 00	28 20
$10\frac{1}{4}$ .....	3 85	5 35	7 10	9 10	11 48	18 50	28 90
$10\frac{1}{2}$ .....	3 95	5 50	7 30	9 35	11 80	19 00	29 60
$10\frac{3}{4}$ .....	4 05	5 65	7 50	9 60	12 12	19 50	30 30
11.....	4 15	5 80	7 70	9 85	12 44	20 00	31 00
$11\frac{1}{4}$ .....	4 25	5 95	7 90	10 10	12 76	20 50	31 70

RICHMOND, VIRGINIA.

## TIRE BOLTS.

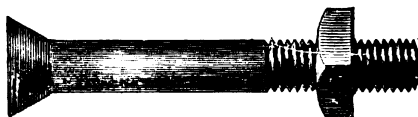


FIG. 323.

## PRICE PER HUNDRED.

	DIAMETER.	3-16	$\frac{1}{4}$	5-16	$\frac{3}{8}$
LENGTH	1 inch.....	60	80	1 10	2 20
	1 $\frac{1}{4}$ .....	60	80	1 10	2 20
	1 $\frac{1}{2}$ .....	60	80	1 10	2 20
	1 $\frac{3}{4}$ .....	65	85	1 10	2 20
	2.....	70	90	1 17	2 20
	2 $\frac{1}{4}$ .....	75	95	1 24	2 30
	2 $\frac{1}{2}$ .....	80	1 00	1 31	2 40
	2 $\frac{3}{4}$ .....	85	1 05	1 38	2 50
	3.....	90	1 10	1 45	2 60
	3 $\frac{1}{4}$ .....	95	1 15	1 52	2 70
	3 $\frac{1}{2}$ .....	1 00	1 20	1 59	2 80
	3 $\frac{3}{4}$ .....	1 05	1 25	1 66	2 90
	4.....	1 10	1 30	1 73	3 00
	4 $\frac{1}{4}$ .....	1 15	1 35	1 80	3 10
	4 $\frac{1}{2}$ .....	1 20	1 40	1 87	3 20
	4 $\frac{3}{4}$ .....	1 25	1 45	1 94	3 30
	5.....	1 30	1 50	2 01	3 40
	5 $\frac{1}{4}$ .....	1 35	1 55	2 08	3 50
	5 $\frac{1}{2}$ .....	1 40	1 60	2 15	3 60
	5 $\frac{3}{4}$ .....	1 45	1 65	2 22	3 70
	6.....	1 50	1 70	2 29	3 80

## STOVE BOLTS.

## FLAT HEADS.

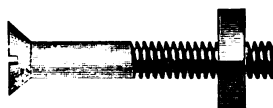


FIG. 324.

## PRICE PER HUNDRED.

	LENGTH.	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3	3 $\frac{1}{4}$	3 $\frac{1}{2}$	3 $\frac{3}{4}$	4	4 $\frac{1}{2}$
DIAMETER.	3-16 inch.....	60	60	65	70	75	80	85	90	95							
	1-4 ".....		65	70	75	80	85	90	95	1 00	1 05	1 10	1 15	1 20	1 25	1 30	1 40
	5-16 ".....		1 05	1 10	1 15	1 20	1 25	1 30	1 35	1 40	1 45	1 50	1 55	1 60	1 65	1 70	1 80
	3-8 ".....		2 20	2 20	2 20	2 20	2 20	2 30	2 40	2 50	2 60	2 70	2 80	2 90	3 00	3 10	3 30

RICHMOND, VIRGINIA.

## PLOW BOLTS.

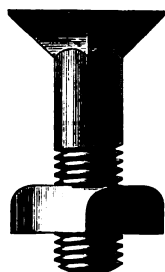


FIG. 325.\*

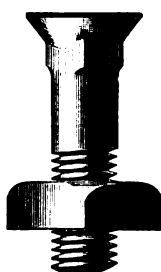


FIG. 326.

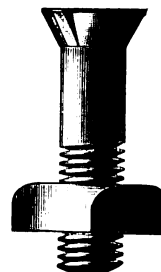


FIG. 327.

With Right or Left Hand Thread, as may be ordered.

## PRICE PER HUNDRED.

Length Over All.	5-16 inch.	3-8 inch.	7-16 inch.	1-2 inch.	9-16 inch.	5-8 inch.
1 $\frac{1}{4}$	\$1 70	\$2 00	\$2 60	\$3 50	\$4 50	\$5 70
1 $\frac{1}{2}$	1 80	2 10	2 75	3 70	4 75	6 00
1 $\frac{3}{4}$	1 90	2 20	2 90	3 90	5 00	6 30
2	2 00	2 30	3 05	4 10	5 25	6 60
2 $\frac{1}{4}$	2 10	2 40	3 20	4 30	5 50	6 90
2 $\frac{1}{2}$	2 20	2 50	3 35	4 50	5 75	7 20
2 $\frac{3}{4}$	2 30	2 60	3 50	4 70	6 00	7 50
3	2 40	2 70	3 65	4 90	6 25	7 80
3 $\frac{1}{4}$	2 50	2 80	3 80	5 10	6 50	8 10
3 $\frac{1}{2}$	2 60	2 90	3 95	5 30	6 75	8 40
3 $\frac{3}{4}$	2 70	3 00	4 10	5 50	7 00	8 70
4	2 80	3 10	4 25	5 70	7 25	9 00

Bolts with Hexagon Nuts 10 per cent. extra.

## ELEVATOR BOLTS.

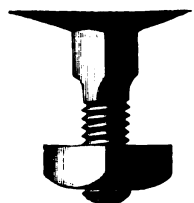


FIG. 328.

LENGTH.	3-16 in. and 1-4 in.	5-16 inch.
$\frac{3}{4}$ .....	\$ 2 20	
1.....	2 30	\$ 3 00
1 $\frac{1}{2}$ .....	2 40	3 20
1 $\frac{3}{4}$ .....	2 50	3 30

\*This style carried in stock.

RICHMOND, VIRGINIA.

## BOLT ENDS.

WITH SQUARE NUTS.



FIG. 329.

## MANUFACTURERS' STANDARD SIZES.

Size of Iron.....	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2	
Length.....	6	7	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Price per lb.....	28	24	22	18	16	14			16			18				

Special lengths, or larger and smaller sizes, made to order, and charged extra.

## BOILER PATCH BOLTS.



FIG. 330.



FIG. 331.

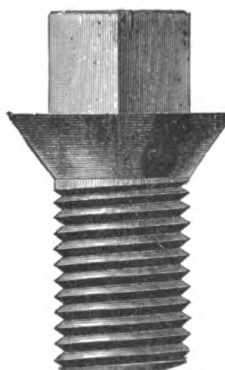


FIG. 332.\*

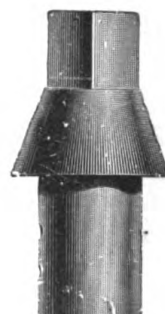


FIG. 333.

## PRICE PER HUNDRED.

Diameter.....	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Price, Blank.....	2 50	3 25	4 25	5 50	7 25
“ Threaded.....	3 50	4 50	6 00	8 00	10 50

Patch Bolts of shorter lengths are charged two cents per pound extra. If cut with a special thread in small quantities, the price will be advanced at our discretion.

\*This style carried in stock.

RICHMOND, VIRGINIA.

## IRON SET SCREWS.

CASE HARDENED.



FIG. 334.

*Price Per Hundred.*

Diameter.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Length under head to point.										
$\frac{3}{4}$	2 00	2 20	2 50	2 90	3 40	4 25	5 00			
1	2 15	2 35	2 65	3 10	3 60	4 25	5 00	7 00		
$1\frac{1}{4}$	2 30	2 50	2 80	3 30	3 80	4 50	5 25	7 00	11 30	
$1\frac{1}{2}$	2 45	2 65	2 95	3 50	4 00	4 75	5 50	7 50	11 30	14 90
$1\frac{3}{4}$	2 60	2 80	3 10	3 70	4 20	5 00	5 75	8 00	12 00	15 90
2	2 80	3 00	3 30	3 95	4 45	5 30	6 05	8 60	12 90	17 00
$2\frac{1}{4}$	.....	3 25	3 55	4 25	4 75	5 65	6 40	9 30	13 80	18 40
$2\frac{1}{2}$	.....	.....	3 85	4 60	5 10	6 05	6 80	10 00	14 80	19 80
$2\frac{3}{4}$	.....	.....	.....	5 00	5 50	6 50	7 25	10 80	15 90	21 40
3	.....	.....	.....	.....	5 95	7 00	7 75	11 70	17 10	23 00
No. Threads. ....	20	18	16	14	12	12	11	10	9	8

## SQUARE-HEAD CAP SCREWS.

FINISHED HEADS.

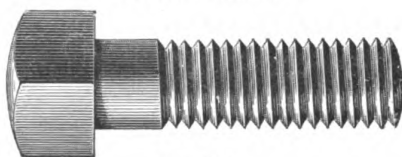


FIG. 335.

*Price Per Hundred.*

Diameter.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$
Length under head to point.								
$\frac{3}{4}$	2 40	2 75	3 20	3 80	4 40	.....	.....	.....
1	2 60	2 95	3 40	4 00	4 70	5 75	.....	.....
$1\frac{1}{4}$	2 75	3 10	3 65	4 20	4 95	6 05	7 70	.....
$1\frac{1}{2}$	2 90	3 30	3 85	4 45	5 25	6 35	8 25	10 50
$1\frac{3}{4}$	3 05	3 50	4 10	4 70	5 55	6 65	8 80	11 10
2	3 25	3 70	4 35	4 95	5 90	7 05	9 40	11 80
$2\frac{1}{4}$	.....	4 00	4 65	5 25	6 30	7 55	10 10	12 60
$2\frac{1}{2}$	.....	.....	5 00	5 60	6 75	8 15	10 90	13 50
$2\frac{3}{4}$	.....	.....	.....	6 00	7 25	8 85	11 80	14 00
3	.....	.....	.....	.....	7 80	9 65	12 80	15 90
No. Threads.....	20	18	16	14	12	12	11	10

RICHMOND, VIRGINIA.

## HEXAGON HEAD CAP SCREWS.

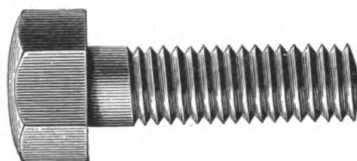


FIG. 336.

FINISHED HEADS.

PRICE PER HUNDRED.

Diameter .....	$\frac{1}{8}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$
Length $\left\{ \begin{array}{l} \frac{3}{4} \\ 1 \\ 1\frac{1}{4} \\ 1\frac{1}{2} \\ 1\frac{3}{4} \end{array} \right.$	3 00	3 25	3 75	4 40	5 50			
under $\left\{ \begin{array}{l} 2 \\ 2\frac{1}{4} \\ 2\frac{1}{2} \\ 2\frac{3}{4} \\ 3 \end{array} \right.$	3 25	3 50	4 00	4 70	5 70	7 00		
head $\left\{ \begin{array}{l} 1\frac{1}{4} \\ 1\frac{1}{2} \\ 1\frac{3}{4} \\ 2 \\ 2\frac{1}{4} \\ 2\frac{1}{2} \\ 2\frac{3}{4} \\ 3 \end{array} \right.$	3 50	3 75	4 25	5 00	6 00		9 50	
to point.	3 75	4 00	4 50	5 30	6 30	8 00	10 00	12 00
	4 00	4 25	4 75	5 60	6 60	8 50	10 60	12 80
	4 25	4 60	5 05	5 95	7 00	9 10	11 20	13 40
		5 00	5 40	6 35	7 50	9 70	11 90	14 10
			5 80	6 80	8 00	10 40	12 70	14 90
				7 30	8 60	11 20	13 60	15 90
					9 30	12 10	14 70	17 00
No. of Thread.....	20	18	16	14	12	12	11	10

## PRESSED WROUGHT-IRON OPEN TURN BUCKLES.

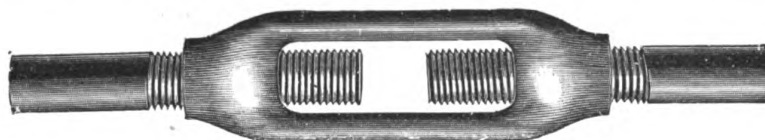


FIG. 337.

WITH RIGHT AND LEFT STUB BOLT ENDS.

STANDARD LENGTHS.

Size.....	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$
Price.....	40	42	45	48	50	63	75	88	1 00	1 25	1 38	1 50	1 75
Size.....	$1\frac{3}{4}$	$1\frac{7}{8}$	2	$2\frac{1}{8}$	$2\frac{1}{4}$	$2\frac{3}{8}$	$2\frac{1}{2}$	$2\frac{5}{8}$	$2\frac{3}{4}$	$2\frac{7}{8}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$
Price.....	2 00	2 25	2 65	3 10	3 50	4 00	4 50	5 00	5 50	6 00	6 50	8 00	10 00

Buckles without Bolt Ends, 20 per cent. less. Ordinary sizes and lengths carried in stock. Extra lengths furnished to order.

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## RIVETS.

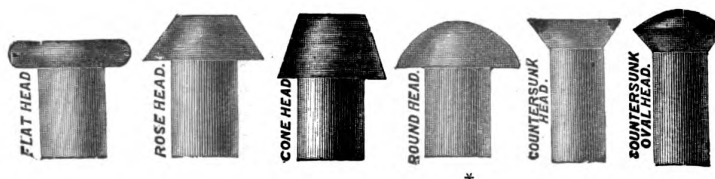


FIG. 338.

No. 6 or 3-16, per lb.....	\$ 0 15
No. 3 or $\frac{1}{4}$ , per lb.....	14
No. 1 or 5-16, per lb.....	12½
$\frac{3}{8}$ , per lb.....	12

Price on Boiler Rivets on application. Only Cone Head Boiler Rivets carried in stock.

## THOUSAND RIVETS.

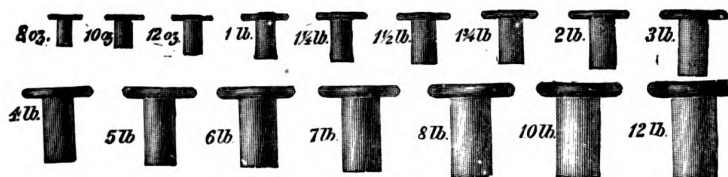


FIG. 339.

Size .....	8 oz.	10	12	14	1 lb.	1¼	1½	1¾	2	2½	3
Black, per 1,000..	20	22	24	26	27	29	32	36	40	47	53
Tinned, per 1,000.....	24	25	28	30	33	37	41	47	52	63	72

Size .....	3½ lb.	4	5	6	7	8	9	10	12	14	16
Black, per 1,000..	58	64	75	90	1 05	1 20	1 27	1 40	1 65	1 90	2 20
Tinned, per 1,000.....	80	88	1 05	1 26	1 50	1 70	1 80	2 00	2 40	2 75	3 10

\*This style Head carried in stock.

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## DIXON'S PLUMBAGO OR GRAPHITE CRUCIBLES.



FIG. 340.

## LIST PRICES AND SIZES OF DIXON'S CRUCIBLES.

Nos.	Height Outside	Diameter at the Top Outside.	Diameter at the Bilge Outside.	Diameter at the Bottom Outside.	Weight of the Crucible.		Capc'ty of Crucible by weight of Water.		Prices, each.
	Inches.	Inches.	Inches.	Inches.	Lbs.	Oz.	Lbs.	Oz.	Cts.
1	3 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	1 $\frac{5}{8}$		9		4 $\frac{1}{4}$	15
2	3 $\frac{3}{4}$	2 $\frac{7}{8}$	3	2 $\frac{1}{8}$		12		6 $\frac{1}{2}$	18
3	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{3}{8}$	2 $\frac{3}{4}$	1	8		11	21
4	5	4	4 3-16	3	1	13	1		24
5	5 $\frac{1}{2}$	4 $\frac{1}{4}$	4 $\frac{1}{8}$	3 $\frac{1}{4}$	2	4	1	4	27
6	5 $\frac{3}{4}$	4 $\frac{3}{8}$	4 $\frac{1}{4}$	3 $\frac{3}{8}$	2	12	1	12	30
7	6 $\frac{1}{4}$	4 $\frac{7}{8}$	5	3 $\frac{1}{2}$	3	3	2		33
8	6 $\frac{3}{4}$	5	5 1-16	3 $\frac{5}{8}$	3	8	2	4	35
10	7 $\frac{3}{8}$	5 7-16	5 $\frac{1}{2}$	4 $\frac{1}{4}$	4	12	3		40
12	8	6	6 $\frac{1}{4}$	4 $\frac{3}{4}$	6	8	4	8	45
14	8 $\frac{3}{8}$	6 $\frac{3}{4}$	7 3-16	5 $\frac{3}{8}$	8	8	5	4	
16	9	7	7 $\frac{1}{4}$	5 $\frac{7}{8}$	9	4	6	4	
18	9 $\frac{1}{4}$	7 $\frac{3}{4}$	7 $\frac{3}{4}$	5 $\frac{7}{8}$	10	4	7	4	
20	9 $\frac{3}{4}$	7 $\frac{7}{8}$	8 $\frac{1}{4}$	6	12	8	8	12	
25	10 $\frac{1}{4}$	8	8 $\frac{3}{8}$	6 $\frac{1}{2}$	14	4	10	4	
30	11 $\frac{1}{4}$	8 $\frac{1}{2}$	9 $\frac{1}{8}$	6 $\frac{3}{4}$	15	12	13		
35	11 $\frac{3}{4}$	9 $\frac{1}{8}$	9 $\frac{7}{8}$	7 $\frac{1}{4}$	20		15	8	
40	12 $\frac{1}{4}$	9 5-16	10 $\frac{1}{4}$	7 $\frac{3}{4}$	23		18		
45	13	9 $\frac{3}{4}$	10 $\frac{1}{4}$	7 $\frac{3}{4}$	24		20		
50	13 $\frac{3}{8}$	9 $\frac{7}{8}$	10 $\frac{3}{8}$	7 $\frac{7}{8}$	27	8	22		
60	13 $\frac{3}{4}$	10 $\frac{3}{8}$	11 $\frac{1}{8}$	8	30		24		
70	14 $\frac{1}{4}$	10 $\frac{3}{4}$	11 9-16	8 $\frac{1}{8}$	33		26	4	
80	15	10 $\frac{3}{4}$	12	8 $\frac{3}{4}$	37	8	29		
100	16	11 $\frac{1}{4}$	12 $\frac{1}{2}$	9	45		32	4	
125	16 $\frac{1}{2}$	12 $\frac{1}{2}$	13 $\frac{3}{4}$	9 $\frac{7}{8}$	51	12	43	8	
150	18	12 $\frac{3}{4}$	14 $\frac{1}{4}$	10 $\frac{3}{4}$	63		51	8	
200	19 $\frac{3}{4}$	14 $\frac{1}{4}$	15 $\frac{1}{4}$	10 $\frac{3}{4}$	76		69	8	
300	21	15 $\frac{1}{4}$	17	11 $\frac{1}{2}$	93		80	8	

No. 14  
and  
upward.  
3 $\frac{1}{2}$ c. per No.

## SPRING PINS OR COTTERS.

STANDARD SIZES.



FIG. 341.

*Price Per Thousand.*

$\frac{1}{8}$ in. Wire— No. 11 w. g.	3-16 in. Wire— No. 7 w. g.	$\frac{1}{4}$ in. Wire— No. 4 w. g.	$\frac{3}{8}$ in. Wire.	$\frac{1}{2}$ in. Wire.
$\frac{1}{8}$ x $\frac{1}{8}$ ..... 3 50	3-16 x $\frac{3}{8}$ ..... 5 00	$\frac{1}{4}$ x 1 ..... 10 00	$\frac{3}{8}$ x $1\frac{1}{2}$ ..... 18 75	$\frac{1}{2}$ x 2 ..... 35 00
$\frac{1}{8}$ x $\frac{1}{4}$ ..... 3 75	3-16 x $\frac{1}{2}$ ..... 5 50	$\frac{1}{4}$ x $1\frac{1}{2}$ ..... 10 50	$\frac{3}{8}$ x $1\frac{3}{4}$ ..... 20 50	$\frac{1}{2}$ x $2\frac{1}{2}$ ..... 38 50
$\frac{1}{8}$ x $\frac{3}{8}$ ..... 4 00	3-16 x 1 ..... 6 00	$\frac{1}{4}$ x $1\frac{3}{4}$ ..... 11 00	$\frac{3}{8}$ x 2 ..... 22 25	$\frac{1}{2}$ x $2\frac{3}{4}$ ..... 42 00
$\frac{1}{8}$ x $\frac{1}{2}$ ..... 4 25	3-16 x $1\frac{1}{2}$ ..... 7 00	$\frac{1}{4}$ x 2 ..... 11 50	$\frac{3}{8}$ x $2\frac{1}{2}$ ..... 24 00	$\frac{1}{2}$ x 3 ..... 49 00
$\frac{1}{8}$ x 1 ..... 4 50	3-16 x 1 ..... 7 75	$\frac{1}{4}$ x $2\frac{1}{2}$ ..... 12 00	$\frac{3}{8}$ x 3 ..... 25 75	$\frac{1}{2}$ x $3\frac{1}{2}$ ..... 56 00
$\frac{1}{8}$ x $1\frac{1}{2}$ ..... 5 00	3-16 x $1\frac{3}{4}$ ..... 8 75	$\frac{1}{4}$ x 3 ..... 12 75	$\frac{3}{8}$ x $3\frac{1}{2}$ ..... 27 00	$\frac{1}{2}$ x 4 ..... 63 00
$\frac{1}{8}$ x $1\frac{3}{4}$ ..... 5 50	3-16 x 2 ..... 9 50	$\frac{1}{4}$ x $3\frac{1}{2}$ ..... 13 25	$\frac{3}{8}$ x 4 ..... 28 75	$\frac{1}{2}$ x 5 ..... 77 00
$\frac{1}{8}$ x 2 ..... 6 00	3-16 x $2\frac{1}{2}$ ..... 10 50	$\frac{1}{4}$ x 4 ..... 14 50	$\frac{3}{8}$ x $4\frac{1}{2}$ ..... 32 50	$\frac{1}{2}$ x 6 ..... 91 00
$\frac{1}{8}$ x $2\frac{1}{2}$ ..... 6 50	3-16 x 3 ..... 11 50	$\frac{1}{4}$ x $4\frac{1}{2}$ ..... 16 00		
$\frac{1}{8}$ x 3 ..... 7 25	3-16 x $3\frac{1}{2}$ ..... 12 50	$\frac{1}{4}$ x 5 ..... 17 50		
$\frac{1}{8}$ x $3\frac{1}{2}$ ..... 8 00	3-16 x 4 ..... 13 50	$\frac{1}{4}$ x $5\frac{1}{2}$ ..... 18 75		
		$\frac{1}{4}$ x 6 ..... 20 00		
		$\frac{1}{4}$ x $6\frac{1}{2}$ ..... 22 75		
		$\frac{1}{4}$ x 7 ..... 25 50		
				$\frac{3}{4}$ in. Wire.
				$\frac{3}{4}$ x 3 ..... 75 00
				$\frac{3}{4}$ x 4 ..... 91 00
				$\frac{3}{4}$ x 5 ..... 107 00
				$\frac{3}{4}$ x 6 ..... 123 00

## FLAT SPRING KEYS.

16 AND 17 WIRE GAUGE.

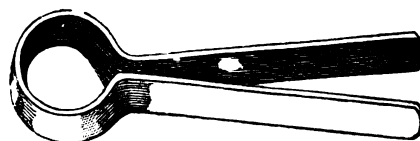


FIG. 342.

*Price Per Thousand.*

$\frac{1}{8}$ in. Wide.	$\frac{3}{8}$ in. Wide.	$\frac{1}{2}$ in. Wide.	$\frac{3}{4}$ in. Wide.	$\frac{1}{2}$ in. Wide.
$\frac{1}{8}$ x $1\frac{1}{2}$ ..... 7 00	$\frac{3}{8}$ x $1\frac{1}{2}$ ..... 8 00	$\frac{1}{2}$ x $1\frac{1}{2}$ ..... 12 00	$\frac{3}{4}$ x $1\frac{1}{2}$ ..... 15 00	$\frac{1}{2}$ x 2 ..... 19 50
$\frac{1}{8}$ x $1\frac{3}{4}$ ..... 7 50	$\frac{3}{8}$ x $1\frac{3}{4}$ ..... 9 00	$\frac{1}{2}$ x $1\frac{3}{4}$ ..... 13 00	$\frac{3}{4}$ x 2 ..... 16 00	$\frac{1}{2}$ x $2\frac{1}{2}$ ..... 21 00
$\frac{1}{8}$ x 2 ..... 8 00	$\frac{3}{8}$ x 2 ..... 10 00	$\frac{1}{2}$ x 2 ..... 14 00	$\frac{3}{4}$ x $2\frac{1}{2}$ ..... 17 50	$\frac{1}{2}$ x 3 ..... 22 50
$\frac{1}{8}$ x $2\frac{1}{2}$ ..... 8 60	$\frac{3}{8}$ x $2\frac{1}{2}$ ..... 11 00	$\frac{1}{2}$ x $2\frac{1}{2}$ ..... 15 00	$\frac{3}{4}$ x 3 ..... 19 00	$\frac{1}{2}$ x $3\frac{1}{2}$ ..... 23 75
$\frac{1}{8}$ x 3 ..... 9 50	$\frac{3}{8}$ x 3 ..... 12 00	$\frac{1}{2}$ x 3 ..... 16 00	$\frac{3}{4}$ x $3\frac{1}{2}$ ..... 20 50	$\frac{1}{2}$ x 4 ..... 25 50
$\frac{1}{8}$ x $3\frac{1}{2}$ ..... 10 50	$\frac{3}{8}$ x $3\frac{1}{2}$ ..... 13 00	$\frac{1}{2}$ x $3\frac{1}{2}$ ..... 17 00	$\frac{3}{4}$ x 4 ..... 22 00	$\frac{1}{2}$ x $4\frac{1}{2}$ ..... 28 50
	$\frac{3}{8}$ x 4 ..... 14 00	$\frac{1}{2}$ x 4 ..... 18 00	$\frac{3}{4}$ x $4\frac{1}{2}$ ..... 25 00	
	$\frac{3}{8}$ x $4\frac{1}{2}$ ..... 15 00	$\frac{1}{2}$ x $4\frac{1}{2}$ ..... 19 00		

These Spring Keys are made of best quality cold rolled spring iron, and are especially adapted to the use of locomotive, car and bridge builders.

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## ELEVATOR BUCKETS.



FIG. 343.

SIZES OF BUCKETS.		Gauge of Metal Used.	PRICES FOR SINGLE END BUCKETS.		PRICES FOR DOUBLE END BUCKETS.	
Width.	Projection.		Plain.	Japanned.	Plain.	Japanned.
2	x 2 in.	25	05	05½		
2½	x 2½ "	24	05	05½		
3	x 2½ "	24	05	05½		
3½	x 2½ "	24	06	06½		
3	x 3 "	23	06	06½	09	09½
3½	x 3 "	23	07	07½	10	11
4	x 3 "	23	07	07½	10	11
4½	x 3 "	23	07	07½	10	11
4	x 3½ "	22	08	08½	11	12
4½	x 3½ "	22	09	10	12	13½
5	x 3½ "	22	09	10	12	13½
5	x 4 "	22	10	10	14	15½
5½	x 4 "	21	11	12	15	16½
6	x 4 "	21	11	12	15	16½
7	x 4½ "	20	14	15½	19	20½
8	x 5 "	19	18	19½	25	26½
9	x 5 "	19	22	23½	29	30½
10	x 5½ "	19	27	28½	34	35½
10	x 6 "	18	36	38	48	50½
11	x 5 "	18	36	38	48	50½
12	x 6 "	18	37	40	49	52½
14	x 6 "	18	44	47	56	59½
16	x 6 "	18	44	47	56	59½
18	x 6 "	18	60	64½	72	77

GALVANIZED BUCKET.

DEEP FIRE PAIL.

ROUND BOTTOM FIRE PAIL.



FIG. 344.



FIG. 345.



FIG. 346.

Sizes ..... 10 Qts. 12 Qts. 14 Qts.  
 Price, per doz... 5 00 5 50 6 50

Holds about 10 qts., 8 inches  
 diam. at mouth, 13 in. deep.

11 in. deep over all, 11 in. diam.,  
 capacity about 12 qts. 1 doz. in crate.

Per dozen.....\$4 80  
 Each..... 40

Per dozen..... \$5 40  
 Each..... 45

## DRILL CHUCKS.

PRATT'S PATENT IMPROVED POSITIVE, DRIVING DRILL CHUCKS.

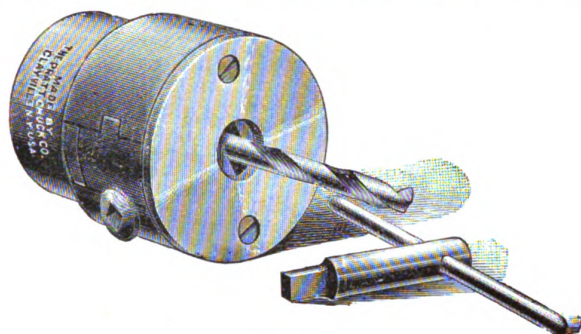


FIG. 347.

List Nos.	Diameter.	Holding Drills.	Price each.
1	2½ in.	0 to ½ in.	\$ 8 00
2	3 "	0 to ¾ "	9 00
3	3¾ "	0 to 1 "	10 00
4	5 "	0 to 1½ "	20 00
5	6 "	0 to 2 "	25 00

THE EMPIRE FRICTION CHUCKS.

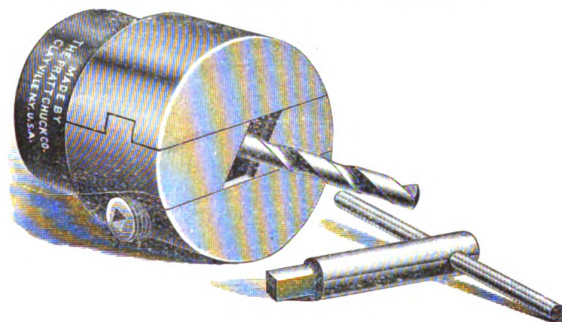


FIG. 348.

## PRICE-LIST.

List Nos.	Diameter.	Capacity.	Price each.
6	1½ in.	0 to ¼ in.	\$ 5 00
7	2½ "	0 to ½ "	6 00
8	3 "	0 to ¾ "	7 00
9	3¾ "	0 to 1 "	8 00
10	5½ "	0 to 1½ "	17 00
11	6 "	0 to 2 "	19 00

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## LATHE CHUCKS.

HORTON'S INDEPENDENT FOUR JAW REVERSIBLE.

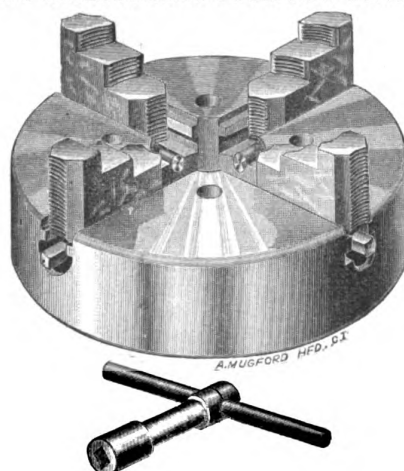


FIG. 349.

Size.....	4	6	8	10	12	14	16	18	20	22	24	26	28	30
Diameter of Hole.....	1	1 $\frac{3}{4}$	1 $\frac{7}{8}$	2	3	3	3	4	4	4 $\frac{3}{4}$	4 $\frac{3}{4}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	6
" Face Plate.....	3	5 $\frac{1}{16}$	4 $\frac{3}{4}$	4 $\frac{3}{4}$	6 $\frac{1}{16}$	6 $\frac{1}{16}$	6 $\frac{1}{16}$	7 $\frac{1}{16}$	7 $\frac{1}{16}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	13	13	15
Price.....	14 00	18 00	22 00	26 00	30 00	34 00	38 00	44 00	50 00	57 00	65 00	80 00	100 00	120 00



FIG. 350.

STANDARD HOISTING ROPES,

With 19 Wires to the Strand.

Diameter in inches.	Circumference in Inches.	Estimated Weight per foot, in pounds.	Price per foot.	
			Iron.	Steel.
2 $\frac{1}{4}$	7	8.00	\$ 1 22	\$ 1 52
2	6 $\frac{1}{4}$	6.30	96	1 20
1 $\frac{3}{4}$	5 $\frac{1}{2}$	5.25	84	1 00
1 $\frac{1}{2}$	5 $\frac{1}{8}$	4.10	68	80
1 $\frac{1}{8}$	4 $\frac{3}{4}$	3.65	62	71
1 $\frac{1}{8}$	4 $\frac{1}{4}$	3.00	52	60
1 $\frac{1}{8}$	4	2.50	44	50
1 $\frac{1}{8}$	3 $\frac{1}{2}$	2.00	36	41
1	3 $\frac{1}{8}$	1.58	29	34
1	2 $\frac{3}{4}$	1.20	23	27
1	2 $\frac{1}{2}$	0.88	18	21
1	2	0.70	15	17
1	1 $\frac{3}{4}$	0.44	12 $\frac{1}{2}$	15
1	1 $\frac{1}{2}$	0.35	10	13
1	1 $\frac{1}{8}$	0.28	9 $\frac{1}{2}$	12 $\frac{1}{2}$
1	1 $\frac{1}{8}$	0.26	9	12

See Special Catalogue.

## STEEL WIRE BROOMS.

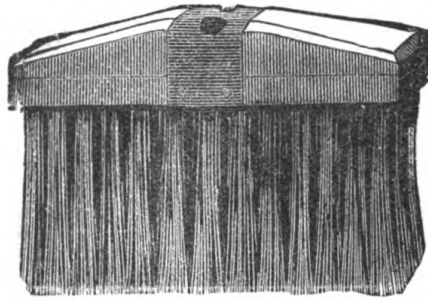


FIG. 351.

12 inch Block, 4 Row, price per dozen.....	\$15 00
15    "        4    "        "        " .....	18 00

## STEEL WIRE CASTING BRUSHES.

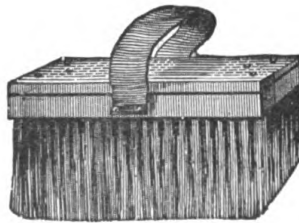


FIG. 352.

2 inch Wire, 4 Rows, per dozen.....	\$5 00
3    "        4    "        "        " .....	6 00

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## ADAMS' INVINCIBLE CAR-WASHERS.



FIG. 353.

No. 11, Size $6\frac{1}{2}$ x $3\frac{1}{2}$ inches, long bristles, per dozen.....	\$33 30
No. 12, Size $7\frac{1}{2}$ x $3\frac{1}{2}$ inches, " " " " .....	40 00

## MOULDER'S DUSTERS.

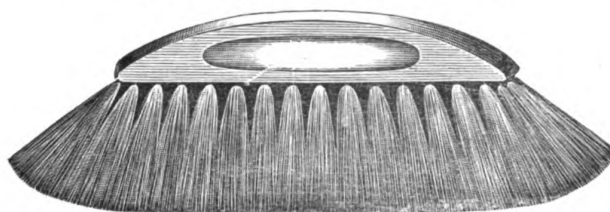


FIG. 354.

No. 1, $8\frac{1}{2}$ inch Block, $3\frac{1}{2}$ inch Hair, per dozen.....	\$5 30
No. 2, $9\frac{1}{2}$ inch Block, $3\frac{1}{2}$ inch Hair, " " .....	5 80

## DUSTING BRUSHES.

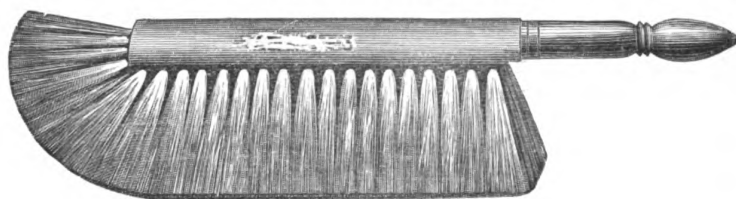


FIG. 355.

No. 1, 7 inch Blade, 3 inch Hair, per dozen.....	\$2 80
No. 2, 8 " 3 " " " .....	3 30
No. 3, 9 " 3 " " " .....	3 65

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## Foundry Riddles.

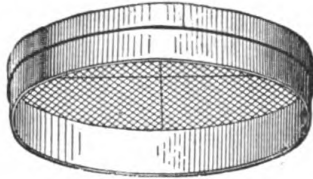


FIG. 356.

Diameter, inches.....	16	18	20
Price, per doz., Brass Wire..	14 00	16 00	20 00
" " Steel " ..	10 50	12 00	14 00

## Wrought Iron Melting Ladles.



FIG. 358.

Diam., inches...	2½	3	3½	4	5	6
Price, each.....	20	25	25	30	45	50

## Coal and Sand Screens.

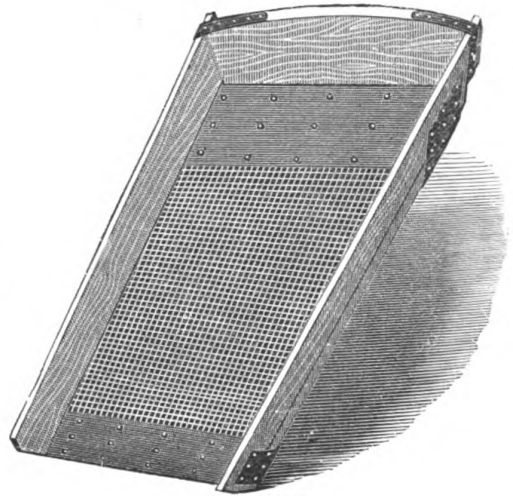


FIG. 357.

Size.....	24	30	36
Price, Coal, each...	12 00	16 00	24 00
" Sand, " ...	8 00		

## Wire Cloth.

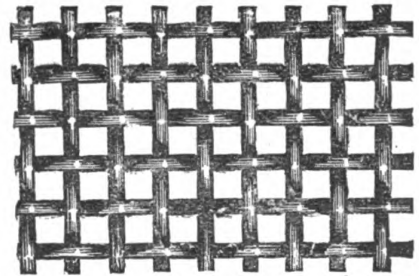


FIG. 360.

No length less than 100 feet shall be understood to be a Roll.

FIG. 359.						
Length, inches,	9	10	11	12	13	14
Price, per doz..	15.00	17.00	20.00	24.00	26.00	28.00

FIG. 359.

No. 2 Mesh, 10	Wire, price per square foot,	38
No. 2½ " 11	" " "	38
No. 3 " 12	" " "	38
No. 3½ " 13	" " "	38
No. 4 " 14	" " "	38
No. 5x2 " 14	" " "	35
No. 5 " 15	" " "	38
No. 6 " 16	" " "	38
No. 8 " 18	" " "	38
No. 10 " 19	" " "	48
No. 12 " 20	" " "	48

Bessemer Steel Wire Cloth same price as Iron Wire Cloth.

RICHMOND, VIRGINIA.

## STEEL BARROWS.

MINING BARROW.

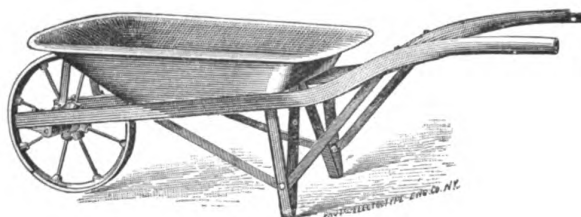


FIG. 361.

No. A 1.	Capacity, 3 cubic feet.....	Weight, 68	Price, \$ 11 50
No. A 2.	" 3 " .....	" 74	" 12 00
No. A 3.	" 3 " .....	" 80	" 12 50
No. A 4.	" 3 " .....	" 86	" 14 00
No. A 5.	" 4 " .....	" 92	" 15 50

Wheel, 16 inches Diameter.

COAL BARROW.

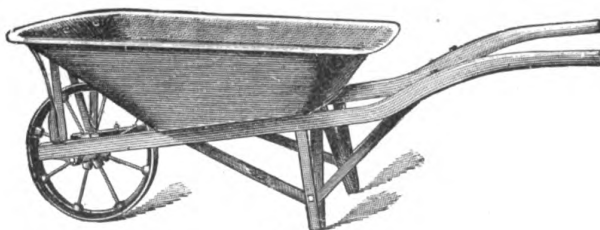


FIG. 362.

No. B 1.	Capacity, 200 lbs.....	Weight, 78	Price, \$ 14 50
No. B 2.	" 250 " .....	" 84	" 18 00
No. B 3.	" 325 " .....	" 90	" 20 00
No. B 3½.	" 325 " .....	" 105	" 22 00
No. B 4.	" 400 " .....	" 130	" 26 00

Wheel, 16 inches Diameter.

For other Goods in this line, see Special Catalogue.

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## STEEL BARROWS.

## METAL BARROW.

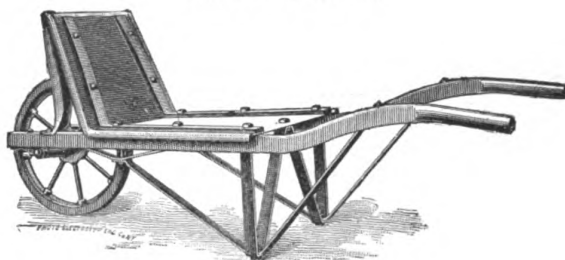


FIG. 363.

C No. 1. Price, each.....\$18 00

Wheel, 16 inches Diameter. Extra Heavy.

## CHARGING BARROW.

Steel. (For Furnaces.)

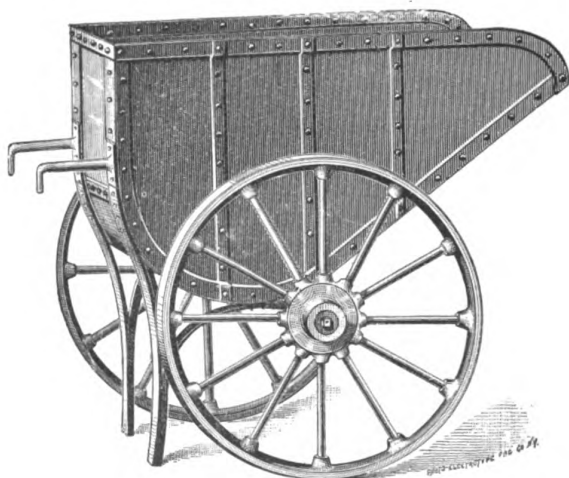


FIG. 364.

No. 1.	Capacity, 10 cubic feet	Price.....	\$58 00
No. 2.	" 12 "	" .....	62 00
No. 3.	" 14 "	" .....	65 00
No. 4.	" 16 "	" .....	68 00
No. 5.	" 20 "	" .....	72 00

If made of Iron, six per cent. less.

For other Goods in this line, see Special Catalogue.

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## PARTS OF STEEL BARROWS.

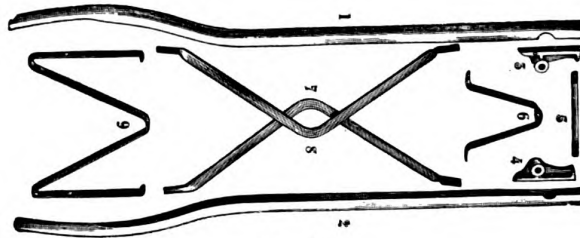


FIG. 365.

No. 1—Left Handle.  
 No. 2—Right Handle.  
 No. 3—Left Bracket.

No. 4—Right Bracket.  
 No. 5—Axle.  
 No. 6—Front Brace.

No. 7—Side Brace.  
 No. 8—Side Brace.  
 No. 9—Legs.

All interchangeable.

## NICKEL-PLATED CONDUCTOR'S PUNCH.

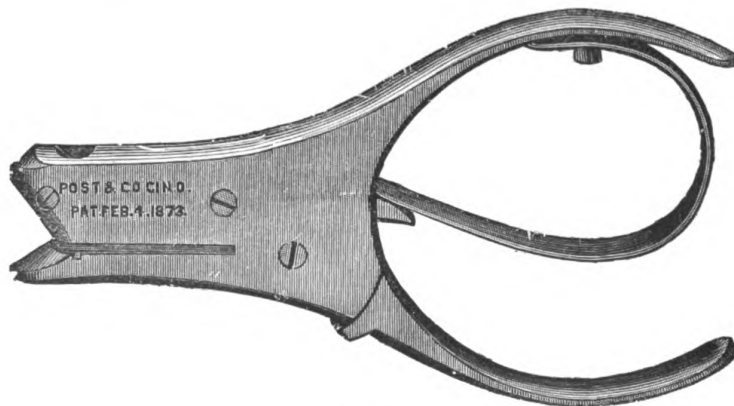


FIG. 366.

Price, each. ....\$3 00

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## LANTERNS.

RAILROAD No. 6.  
Height of Globe,  $6\frac{1}{4}$  inches.



FIG. 367.

RAILROAD 39.  
Height of Globe,  $5\frac{1}{2}$  inches.



FIG. 368.

Price, with White Globes, per dozen.....	\$ 10 00
“ Ruby “ “ .....	14 50
“ Green and Blue Globes, per dozen.....	12 50

TEN INCH SQUARE MOTOR HEAD-LIGHT,  
With Dash Board Attachment for Cable or Motor Cars.



FIG. 369.

Price, each..... \$ 10 00

CONDUCTOR'S LANTERN.



FIG. 370.

Price, each..... \$ 5 00

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## LAMPS.

FURNACE LAMP.

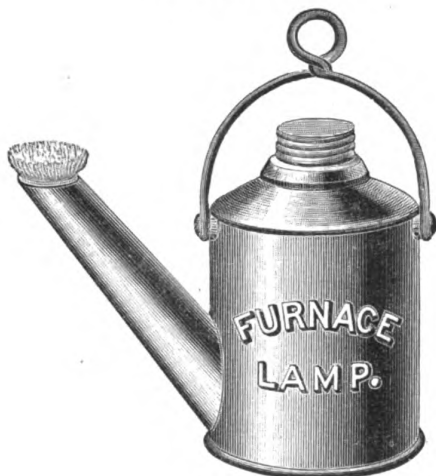


FIG. 371.

Price, per dozen..... \$ 12 00

LOCOMOTIVE CAB LAMP.



FIG. 372.

Price, each..... \$ 6 00

MINER'S LAMP.



FIG. 373.

Price, per dozen..... \$ 1 25

POLICE, OR DARK LANTERN.



FIG. 374.

Price, per dozen..... \$ 9 00

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LAMPS.

No. 9 TUBULAR POST LAMP.

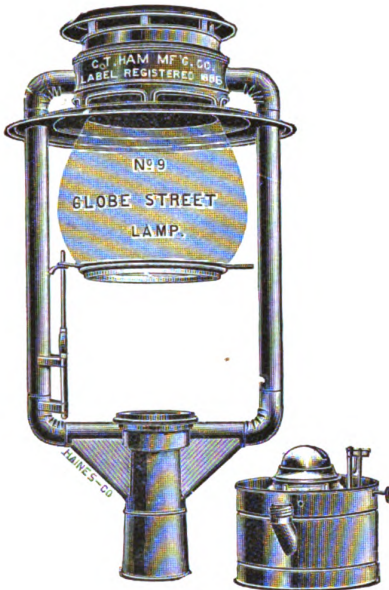


FIG. 375.  
Showing Lift Wire.

No. 9 TUBULAR HANGING LAMP.

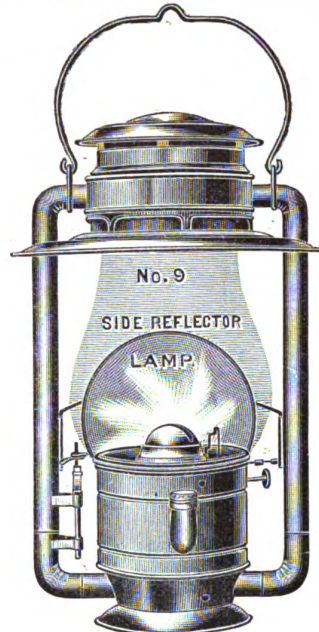


FIG. 376.

SQUARE STATION LAMP.  
With Reflector.

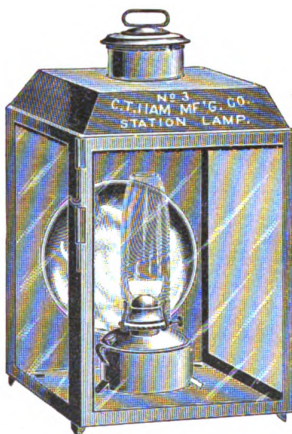


FIG. 377.  
Three Sizes—Nos. 1, 2, 3.

SQUARE TUBULAR LAMP.  
With Reflector.



FIG. 378.  
Three Sizes—Nos. 1, 2, 3.

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## LAMPS.

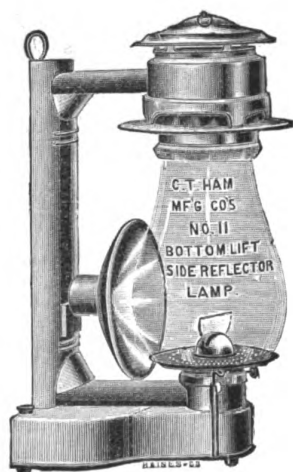
No. 12, TUBULAR SIDE  
REFLECTOR LAMP.

FIG. 379.

No. 2 Burner. 1 in. Wick. No. 1 Globe.  
Six Inch Silvered Glass Reflector. Plain and Japanned.

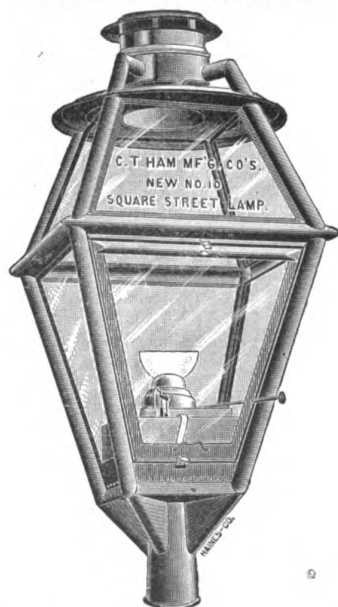
No. 10, NEW IMPROVED SQUARE  
TUBULAR STREET LAMP.

FIG. 381.

Outside Wick Regulator. Automatic Extinguisher.  
Patent Wind-Break.  $1\frac{1}{4}$  inch Wick. Gives a bright  
steady light. Will not smoke or blow out. Not  
affected by cold weather.

No. 0, OVAL TUBE, SIDE SPRING  
SAFETY TUBULAR LANTERN.

FIG. 380.

No. 1,  $\frac{5}{8}$  inch Wick. No. 0 Globe.

GEM DRIVING LAMP.

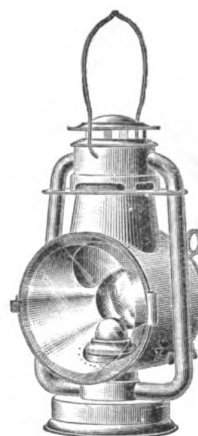


FIG. 382.

Brass and Nickel Plate.

## SCALES.

## PORTABLE PLATFORM SCALES

Without Wheels.

With Brass Sliding Poise.



FIG. 383.

No.	Capacity. Lbs.	Platform. In.	Price.
1200.....	2,500	26x34	\$80 00
1201.....	2,000	25x33	70 00
1202.....	1,500	21x28	52 00
1203.....	1,200	20x28	45 00
1204.....	1,000	17x26	39 00
1205.....	800	17x26	34 00
1206.....	600	16x25	30 00
1207.....	400	15x21	23 00

## PORTABLE PLATFORM SCALES

With Wheels.

With Brass Sliding Poise.



FIG. 384.

No.	Capacity. Lbs.	Platform. In.	Price.
1208.....	2,500	26x34	\$85 00
1209.....	2,000	25x33	75 00
1210.....	1,500	21x28	56 00
1211.....	1,200	20x28	49 00
1213.....	1,000	17x26	43 00
1214.....	800	17x26	38 00
1215.....	600	16x25	33 00
1216.....	400	15x21	26 00

## PORTABLE PLATFORM SCALES.

With Heavy Wheels and Drop Lever.

With Notched Beam.

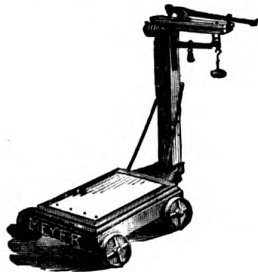


FIG. 385.

No.	Capacity. Lbs.	Platform. In.	Price.
1217.....	2,500	26x34	\$94 00
1218.....	2,000	25x33	82 00
1219.....	1,500	21x28	70 00
1220.....	1,200	20x28	59 00
1221.....	1,000	17x26	51 00
1222.....	800	17x26	46 00
1223.....	600	16x25	41 00
1224.....	400	15x21	34 00

## PORTABLE PLATFORM SCALES

For Foundry Use.

Extra Heavy, with 12-inch Wheels and Drop Lever. Notched Beam.

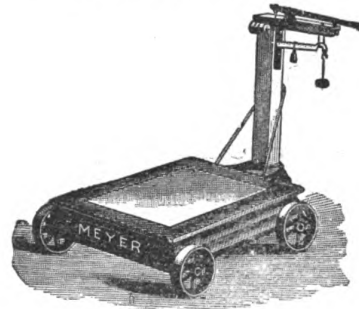


FIG. 386.

No.	Capacity. Lbs.	Platform. In.	Price.
1752.....	3,000	31x40	\$125 00
With Brass Sliding Poise. Without Drop Lever.			
1753.....	3,000	31x40	\$125 00

For other goods in this line, see Special Catalogue.

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## SCALES.

## ROLLING MILL OR IRON SCALES

For Weighing Iron or Steel Plates.

Rubber Spring Platform.

With Plate and Spring. Brass Sliding Poise.

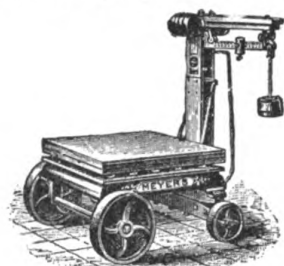


FIG. 387.

No.	Capacity. Lbs.	Platform. In.	Price.
1720 .....	2,500	23x31	\$125 00
1721 .....	4,000	31x40	160 00
1722 .....	6,000	31x40	185 00
1723 .....	8,000	31x40	210 00
1724 .....	10,000	31x40	225 00
1725 .....	12,000	31x40	240 00

With Plate and Spring and Drop Lever.  
Notched Beam.

1726 .....	2,500	23x31	\$125 00
1727 .....	4,000	31x40	160 00
1728 .....	6,000	31x40	185 00
1729 .....	8,000	31x40	210 00
1730 .....	10,000	31x40	225 00
1731 .....	12,000	31x40	240 00

The above scales will be furnished with 4 fixed wheels when desired.

## DORMANT WAREHOUSE SCALES.

With Double Beam.

With two Iron Pillars and Brass Sliding Poises.

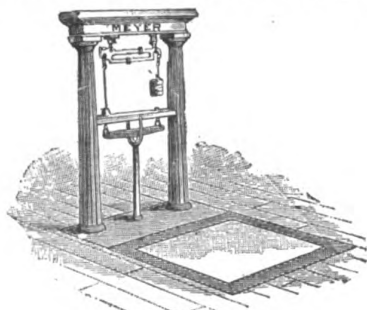


FIG. 389.

No.	Capacity. Lbs.	Platform. In.	Price.
1800 .....	5,000	48x48	\$180 00
1801 .....	3,500	42x44	133 00
1802 .....	2,500	31x40	113 00
1803 .....	3,500	42x44	
with extra Long Neck .....			143 00

## IMPROVED PIG METAL SCALE.



FIG. 388.

No.	Capacity.	Size of Platform.	Price. Single Beam.	Price. Double Beam.
1652 .....	10 tons	6x8 ft.	\$280 00	\$290 00
1653 .....	8 "	"	240 00	250 00
1654 .....	6 "	"	210 00	220 00
1655 .....	5 "	"	190 00	200 00
1656 .....	4 "	"	165 00	175 00
1657 .....	10 "	5x6 ft.	270 00	280 00
1658 .....	8 "	"	230 00	240 00
1659 .....	6 "	"	200 00	210 00
1660 .....	5 "	"	180 00	190 00
1661 .....	4 "	"	160 00	170 00
1662 .....	3 "	"	155 00	163 00
1663 .....	3 "	4x6 ft.	140 00	148 00
1664 .....	2 "	"	135 00	143 00
1665 .....	2 "	"	130 00	138 00
1666 .....	20 "	6x8 ft.	385 00	400 00

## MINERS' TIPPLE AND TRANSPORTATION SCALES.

Portable, Complete With Timber.

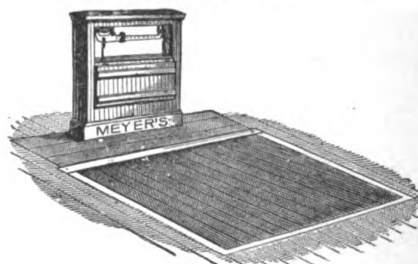


FIG. 390.

No.	Capacity Tons.	Size of Platform.	Price, Single Beam.	Price, Double Beam.
1616 .....	2	4½ ft. x 3	\$155 00	\$163 50
1617 .....	2	6 " x 5	180 00	188 50
1618 .....	3	6 " x 5	200 00	208 50
Dormant, Requiring Timber.				
1619 .....	10	6x8 ft.	\$280 00	\$290 00
1620 .....	8	6x8 "	240 00	250 00
1621 .....	6	6x8 "	210 00	220 00

## SHOVELS, SPADES AND SCOOPS.



FIG. 391.

FIG. 392.

FIG. 393.

FIG. 394.

FIG. 395.

FIG. 396.

## PLAIN BACK SOLID CAST STEEL SHOVELS.

FIG. 391.						SIZE.	PER DOZEN.
D Handle, Square or Round-Point Shovels, Black.....						2	\$11 00
"	"	"	"	"	"	3	11 50
"	"	"	"	"	"	4	12 25
"	"	"	"	"	"	5	12 75
"	"	"	"	"	"	6	13 25
"	"	"	"	"	"	7	14 00

Long Handle, same prices.

## TAMPING SHOVELS.—FIG. 392.

Crucible Cast Steel, Black, No. 2.....	\$12 50	Tamping Heads.....	\$2 75
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## PLAIN BACK COAL AND LOCOMOTIVE SCOOPS.—FIG. 394.

SIZE.	PER DOZEN.	SIZE.	PER DOZEN.
D Handle, Cast Steel, Black..... 2	\$10 50	D Handle, Cast Steel, Black..... 5	\$12 00
" " " " ..... 3	11 00	" " " " ..... 6	12 50
" " " " ..... 4	11 50	" " " " ..... 7	13 00
		" " " " ..... 8	13 50

## BACK STRAP CAST STEEL GOAL SHOVELS.

FIG. 393.	SIZE.	PER DOZ.
D Handle, Black.....	1	\$9 00
" " " ".....	2	9 50
" " " ".....	3	10 50

## PLAIN BACK SOLID CAST STEEL SPADES.

FIG. 395.	SIZE.	PER DOZ.
Square Point, D Handle, Black,	2	\$11 00
" Long Handle, " "	2	11 00

## CLEVELAND OR REMINGTON PATTERN SOLID STEEL SOCKET SHOVELS.

SIZE.	PER DOZ.	SIZE.	PER DOZ.
D Handle, Square Point, Black..... 2	\$13 00	D Handle, Square Point, Black..... 6	\$15 75
" " " " ..... 3	13 50	" " " " ..... 8	17 75
" " " " ..... 4	14 25	" Round Point, Black..... 2	13 75
" " " " ..... 5	14 75	" " " " ..... 3	14 25
FIG. 396.—Moulders', Polished.....		" " " " ..... 2	14 00

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## FORKS.

## D HANDLE COKE FORK.



FIG. 397.

Size.....	8 tine	10 tine	12 tine	14 tine	16 tine
Price, per dozen.....	19 00	24 00	28 00	33 00	40 00

## D HANDLE STONE FORK.

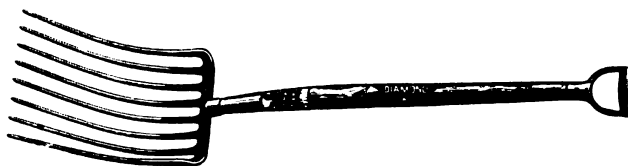


FIG. 398.

Size. ....	8 tine	10 tine	12 tine
Price, per dozen.....	20 00	26 00	30 00

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## INSIDE IRON STRAPPED BLOCKS.

## IRON SHEAVES.

Becket.



FIG. 399.

Becket.



FIG. 400.

Becket.



FIG. 401.

DIMENSIONS.				IRON BUSHED.			SELF ADJUSTING FIVE-ROLLER BUSHED.			Price Com- mon Iron Sheaves.	
Size Sheaves.		For Dia. Rope.	Size Shell.	Single.	Double.	Triple.	Single.	Double.	Triple.		
1 3/4	x	3/4	x	3-in.	\$ 70	\$1 30	\$ 1 75	\$ 1 10	\$ 2 00	\$ 2 90	\$ 09
2	x	1	x	3 1/2	75	1 45	2 00	1 15	2 20	3 15	10
2 1/4	x	1 1/4	x	4	85	1 60	2 15	1 20	2 25	3 25	12
3	x	1 1/2	x	5	90	1 75	2 25	1 25	2 35	3 50	20
3 1/4	x	1 3/4	x	6	1 10	2 00	2 90	1 50	2 85	4 40	25
4 1/4	x	1 3/4	x	7	1 30	2 40	3 50	1 70	3 35	5 00	30
4 3/4	x	1 3/4	x	8	1 65	2 85	4 25	2 25	4 15	6 00	35
5 1/4	x	1 3/4	x	9	1 85	3 40	4 75	2 50	4 70	7 25	45
6 1/4	x	1 3/4	x	10	2 75	4 50	6 25	3 50	6 00	8 50	55
7 1/4	x	1 3/4	x	11	Same	list as	12-inch.	Same	list as	12-inch.	70
8	x	1 3/4	x	12	4 45	7 50	10 65	5 30	9 20	13 20	90
9	x	1 3/4	x	13	Same	list as	14-inch.	Same	list as	14-inch.	1 20
9 1/2	x	1 3/4	x	14	7 00	10 50	15 00	8 15	12 80	18 45	1 40
10	x	1 3/4	x	15	8 00	13 50	18 00	9 25	15 50	21 75	1 50
11	x	1 3/4	x	16	10 00	15 00	22 00	11 50	18 00	26 00	1 70

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## HEAVY TACKLE, THICK MORTISE BLOCKS.

Becket.

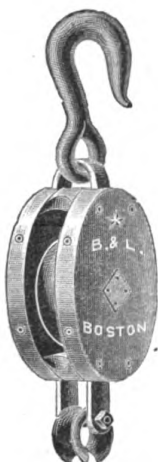


FIG. 402.

Becket.

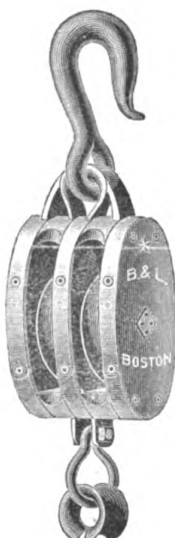


FIG. 403.

Becket.

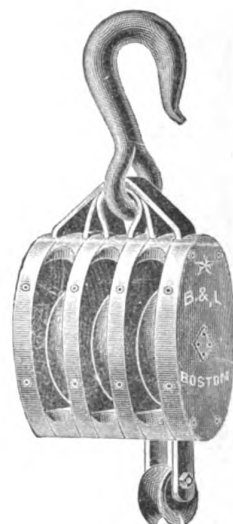


FIG. 404.

DIMENSIONS.					IRON BUSHED.			IMP. SELF-ADJUSTING FIVE ROLLER. STEEL ROL- LER BUSHED.			Improved Self-Adjust- ing Five Rol- ler Sheaves.	
Size Sheaves.			For Dia. Rope.	Size Shell.	Single.	Double.	Triple.	Single.	Double.	Triple.		
4½	x	1½	x	1	7-in.	\$ 2 25	\$ 4 00	\$ 5 50	\$ 3 00	\$ 5 50	\$ 7 75	\$ 75
4¾	x	1¾	x	1½	8	2 75	4 50	6 30	3 50	6 00	8 55	1 15
5	x	1¾	x	1¾	9	3 15	5 25	7 25	4 00	6 95	9 80	1 25
6½	x	1¾	x	1¾	10	4 00	6 50	8 50	5 25	9 00	12 25	1 60
7	x	1¾	x	1¾	11	Same	list as	12-inch.	Same	list as	12-inch.	1 80
8	x	1¾	x	1¾	12	5 25	8 50	12 50	6 50	11 00	16 25	2 10
9	x	1¾	x	1¾	13	Same	list as	14-inch.	Same	list as	14-inch.	2 55
9½	x	1¾	x	1¾	14	8 00	13 00	17 00	9 75	16 50	22 25	2 85
10	x	1¾	x	1¾	15	9 00	15 00	20 00	11 00	19 00	26 00	3 15
11	x	2	x	2	16	11 50	18 00	28 00	14 00	23 00	35 50	3 50

Our Thick Mortise Blocks are especially well adapted for railroad, mining, bridge-building, and contractors' work.

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## IMPROVED IRON STRAPPED SELF-LOCKING LINK SNATCH BLOCK.

SWIVEL HOOK AND CROSS-BOLTED.

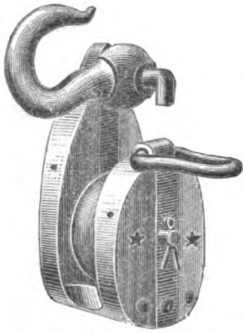


FIG. 405.

Size Sheave.	For Dia. Rope	Size Shell.	Iron Bushed	Self-Lubricating Metalline Bushed.
3 x 1 1/2 x 1/2	1/2	6 inches.	\$ 4 00	\$ 5 25
3 1/2 x 1 1/2 x 1/2	3/4	7 "	4 75	6 00
4 1/2 x 1 1/2 x 1/2	1	8 "	5 75	7 25
5 x 1 1/2 x 1/2	1 1/4	9 "	6 75	8 50
5 1/2 x 1 1/2 x 1/2	1 1/2	10 "	8 50	11 00
6 1/2 x 2 1/2 x 1/2	1 3/4	12 "	10 00	13 00
8 x 2 1/2 x 1/2	2	14 "	13 00	16 50
9 x 2 1/2 x 1	2 1/2	16 "	17 00	22 00
10 x 3 x 1	2 3/4	18 "	25 00	31 00
11 x 3 1/2 x 1 1/2	3	20 "	38 00	46 00
11 1/2 x 4 1/2 x 1 1/2	3 1/2	22 "	55 00	68 00
12 1/2 x 4 1/2 x 1 1/2	3 3/4	24 "	70 00	86 00

## FERRY TRAVELERS.

Ferry Traveler with Single 12-inch  
Common Sheave.

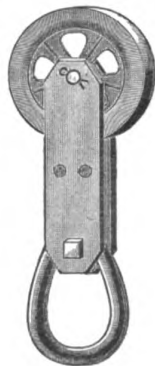


FIG. 406.

Ferry Traveler with two 8-inch  
Common Sheaves.

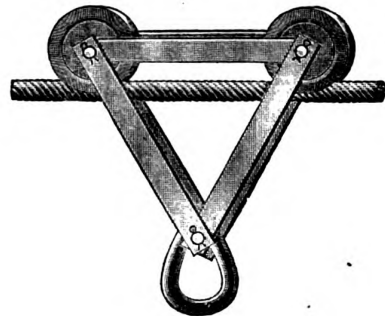


FIG. 407.

Prices on Application.



FIG. 408.

WEIGHT PER FOOT AND SAFE LOADS PER TESTED COIL CHAIN.

Size of Iron.....	3-16	1/4	5-16	3/8	7-16	1/2	9-16	5/8	3/4	7/8	1
Weight per foot.....	.33	.80	1.	1.5	2	2.6	3.33	.4	6.	8.	10.
Safe Load, Tons.....	1/4	1/2	1	2	2 1/2	3 1/2	4 1/2	5 1/2	8	11	14

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## MALLEABLE IRON TACKLE BLOCKS.

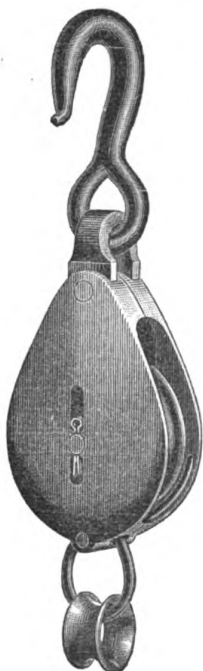


FIG. 409.

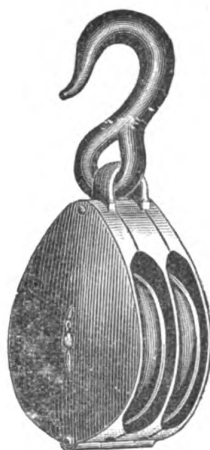


FIG. 410.

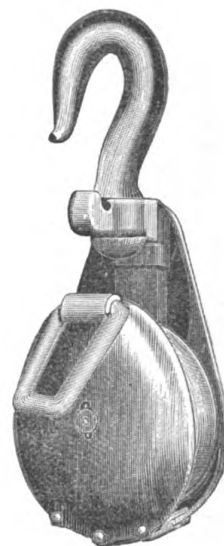


FIG. 411.

Length of Shell.	Diameter of Rope.		Plain Bushing.	Roller Bushing.	Self-Lub. Brass Bush.	Length of Shell.	Diameter of Rope.		Plain Bushing.	Roller Bushing.	Self-Lub. Brass Bush.
4-in.	1/2-inch.	Single.	\$ 0 90		\$ 1 65	8-in.	1-in.	Single.	\$ 1 85	\$ 2 55	\$ 2 90
		Double.	1 75		3 25			Double.	3 20	4 60	5 30
		Triple.	2 50		4 75			Triple.	4 75	6 85	7 90
5-in.	3/8-inch.	Single.	1 00	\$ 1 50	1 80	9-in.	1 1/8 in.	Single.	2 40	3 20	3 55
		Double.	1 90	2 90	3 50			Double.	4 00	5 60	6 30
		Triple.	2 75	4 25	5 15			Triple.	5 50	7 90	9 00
6-in.	3/4-inch.	Single.	1 25	1 75	2 10	10-in.	1 1/2 in.	Single.	3 10	4 05	4 40
		Double.	2 25	3 25	4 00			Double.	5 10	7 00	7 70
		Triple.	3 25	4 75	5 80			Triple.	7 00	9 85	11 00
7-in.	7/8-inch.	Single.	1 50	2 10	2 45	12-in.	1 3/4 in.	Single.	5 00	6 00	6 45
		Double.	2 70	3 85	4 60			Double.	8 25	10 35	11 15
		Triple.	4 00	5 80	6 85			Triple.	11 75	14 90	16 00

## NEW STYLE AUTOMATIC SNATCH BLOCKS.—FIG. 411.

Length of Shell.	Size of Sheave.	Diameter of Rope.	Price.
7-in.....	3 1/2 x 1 1/4	3/4 @ 1 1/4	\$ 5 50
8-in.....	4 x 1 1/2	1 @ 1 1/2	7 00
10-in.....	5 1/2 x 1 3/4	1 1/4 @ 1 3/4	9 00
12-in.....	7 x 2	1 3/4 @ 2	11 00
14-in.....	8 x 2 1/4	1 3/4 @ 2 1/4	15 00
16-in.....	9 x 2 1/2	2 @ 2 1/2	20 00

RICHMOND, VIRGINIA.

## CRABS AND WINCHES.

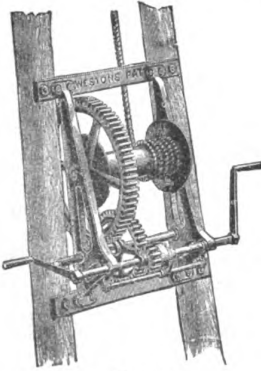


FIG. 411.  
WINCH.  
FOR DOUBLE SHEAR POLES.

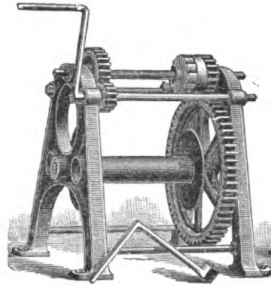


FIG. 412.  
CRAB.

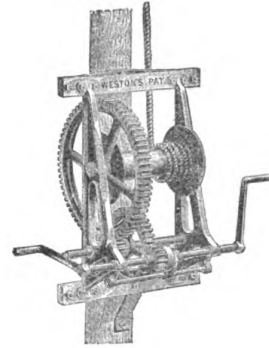


FIG. 413.  
WINCH.  
FOR SINGLE SHEAR POLES.

No. of Crab	No. of Winch	Regular Size of Barrel		Capacity		Changes of Speed	Price	
		Diameter	Length	Direct on Barrel	With Single Block		With regular length of Barrel	Extra for each 6 ins. of Barrel
21	31	4½ inches	12 inches	½ ton	1 ton	One	\$35 00	\$5 00
22	32	5 " "	16 " "	1 " "	2 " "	Two	45 00	6 00
23	33	6 " "	20 " "	1½ " "	3 " "	Two	65 00	7 50
25	35	7 " "	24 " "	2½ " "	5 " "	Two	100 00	10 00

## MANILLA ROPE.

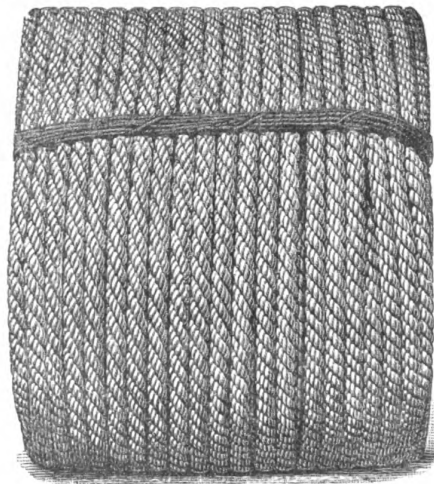


FIG. 414.

## WEIGHT PER FOOT AND SAFE LOADS FOR MANILLA ROPE.

Circumference.....	3¼	1½	1½	2½	2¾	3	3½	3¾	4½	4¾	5½	6	6½	7
Diameter.....	1¼	1½	1¾	2¼	2½	2¾	3¼	3½	4¼	4¾	5½	6	6½	7
No. of feet in one pound.....	45	25	11½	5¼	4	3¾	2¼	2¾	1¾	1½	1	10 in.	8¼ in.	7¼ in.
Strain borne by new rope, pounds	450	900	1700	4000	5800	7000	9200	11000	13500	17000	23500	27000	31500	37000

RICHMOND, VIRGINIA.

## TRUCKS.

STORE AND WAREHOUSE.



FIG. 415.

HALF STRAPPED.

	Length of Handle.	Width at Nose.	Width at Upper Bar.	Diameter of Wheel.	Price.
No. 1	4 feet 2 in.	12 in.	15½ in.	7 in.	\$ 6 50
No. 2	4 feet 7 in.	13¾ in.	18 in.	8 in.	8 50
No. 3	4 feet 9 in.	14¾ in.	18½ in.	9 in.	11 00



FIG. 416.

FULL STRAPPED.

	Length of Handle.	Width at Nose.	Width at Upper Bar.	Diameter of Wheel.	Price.
No. 1	4 feet 2 in.	11¾ in.	15½ in.	7 in.	\$ 7 50
No. 2	4 feet 7 in.	14 in.	18 in.	8 in.	10 00
No. 3	4 feet 9 in.	14¾ in.	18½ in.	9 in.	12 50
No. 4	5 feet 6 in.	15 in.	19½ in.	10¾ in.	15 50
No. 5	6 feet 1 in.	15½ in.	20½ in.	12 in.	18 50
No. 6	6 feet 4 in.	16½ in.	21¾ in.	12 in.	24 00

WHEELBARROWS.

RAILROAD OR CANAL BARROW.

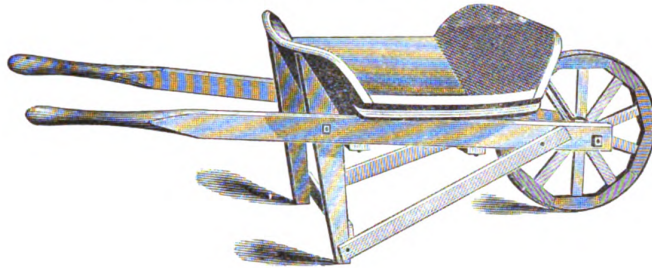


FIG. 417.

GARDEN BARROW.

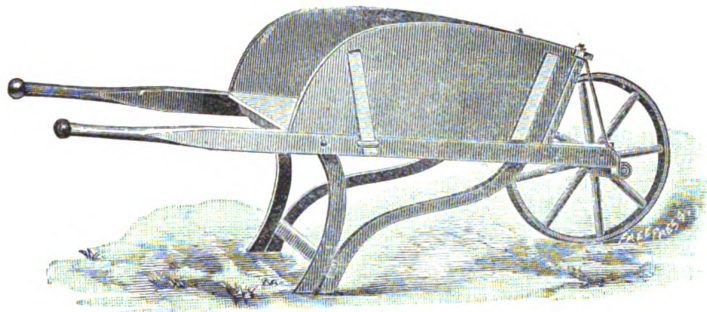


FIG. 418.

CLOSE BOTTOM BRICK BARROW.

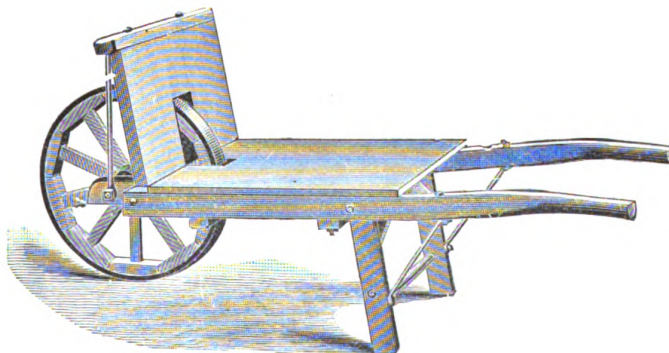


FIG. 419.



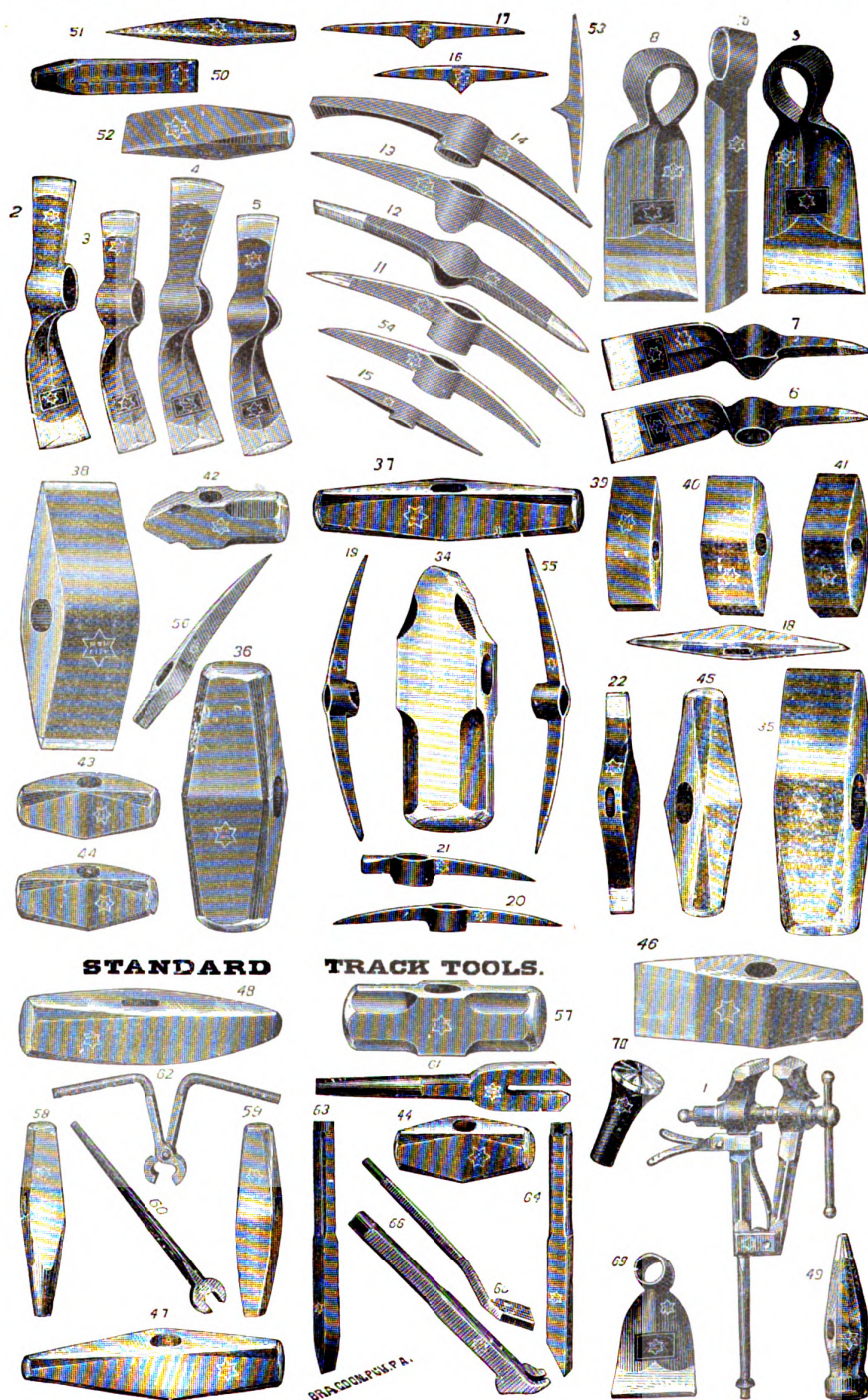
PRICES ON APPLICATION.



RICHMOND, VIRGINIA.



## BLACKSMITHS' AND CONTRACTORS' TOOLS.



FOR LIST OF TOOLS, SEE OPPOSITE PAGE.

## BLACKSMITHS' AND CONTRACTORS' TOOLS.

- |  |   |
|--|---|
| No. 1. Solid Box Vise.                                 | No. 37. Coal Sledge.                    |
| 2. Adze Eye, Long Cutter Mattock.                      | 38. Stone or Granite Axe.               |
| 3. Adze Eye, Short Cutter Mattock.                     | 39. Mason Hammer.                       |
| 4. Hunt Eye, Long Cutter Mattock.                      | 40. Spalling Hammer, face and pene.     |
| 5. Hunt Eye, Short Cutter Mattock.                     | 41. Spalling Hammer, double face.       |
| 6. Adze Eye, Pick Mattock.                             | 42. Smiths' Hand Hammer.                |
| 7. Hunt Eye, Pick Mattock.                             | 43. Hand Drilling Hammer.               |
| 8. Western Patent Grub Hoe.                            | 44. Striking Hammer.                    |
| 9. Simmons Patent Grub Hoe.                            | 45. Napping Hammer.                     |
| 10. Cooper Froe.                                       | 46. Wood Choppers' Maul.                |
| 11. Adze Eye, Railroad or Clay Pick.                   | 47. Railroad Spike Maul.                |
| 12. Hunt Eye, Railroad or Clay Pick.                   | 48. Railroad Track Chisel.              |
| 13. Hunt Eye Tamping Pick.                             | 49. Boat Maul.                          |
| 14. Adze Eye, Tamping Pick.                            | 50. Wood Wedge, Truckee pat.            |
| 15. Adze Eye, Coal Pick.                               | 51. Coal Wedge.                         |
| 16. Common Eye, Coal Pick.                             | 52. Stone Wedge.                        |
| 17. Anthracite Coal Pick.                              | 53. Alton Pattern Coal Pick.            |
| 18. Stone Pick.  | 54. Adze Eye Ore Pick.                  |
| 19. Surface Pick.                                      | 55. Adze Eye Contractors' Pick.         |
| 20. Drifting Pick.                                     | 56. Lake Superior Mining Pick.          |
| 21. Poll Pick.   | 57. Railroad Sledge, double face.       |
| 22. Mill Pick.   | 58. Railroad Track Punch, round point.  |
| 23. Drifting Pick, Blank drawn.                        | 59. Railroad Track Punch, square point. |
| 24. Drifting Pick, Blank not drawn.                    | 60. Railroad Track Wrench.              |
| 25. Surface Pick, Blank drawn.                         | 61. Railroad Rail Fork.                 |
| 26. Surface Pick, Blank not drawn.                     | 62. Railroad Rail Tongs.                |
| 27. Railroad Pick, Blank drawn.                        | 63. Crow Bar, wedge point.              |
| 28. Railroad Pick, Blank not drawn.                    | 64. Crow Bar, pinch point.              |
| 29. Tamping Pick, Blank not drawn.                     | 65. Railroad Tamping Bar.               |
| 30. Mattock, Blank not drawn.                          | 66. Railroad Claw Bar.                  |
| 31. Railroad Pick Eye, Size, 3x2 inches.               | 67. Octagon Pattern Turning Sledge.     |
| 33. Drifting Pick Eye, Size, 3x1 $\frac{1}{8}$ inches. | 68. Wood Wedge, square head.            |
| 34. Smith Sledge.                                      | 69. Hazel Hoe.                          |
| 35. Stone Sledge.                                      | 70. Plow Anvil.                         |
| 36. Striking Sledge.                                   |   |

See Opposite Page for Cut of Tools.

RICHMOND, VIRGINIA.



## RAILROAD PLOW.

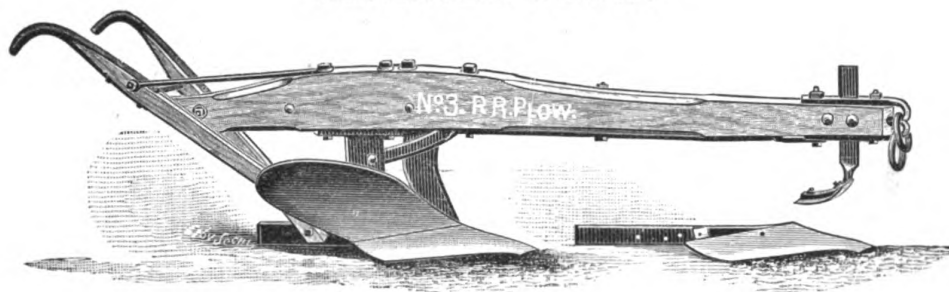


FIG. 420.

## WESTERN WHEEL SCRAPERS.

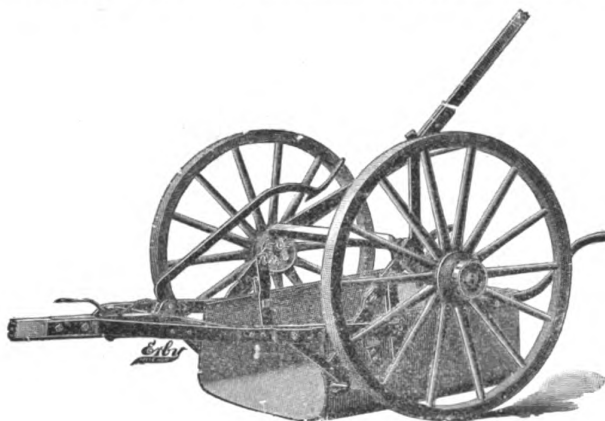


FIG. 421.

Position for loading.

## WESTERN DRAG SCRAPER.



FIG. 422.

View of Sides and Bottom.

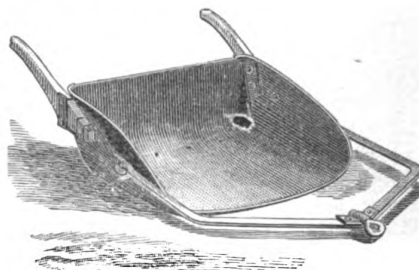


FIG. 423.

Front View.



PRICES ON APPLICATION.



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RICHMOND, VIRGINIA.



## TELEGRAPH CIPHER.

## QUESTIONS.

<b>Quake.</b>	At what price can you furnish —— ?
<b>Quandary.</b>	At what price and how soon can you furnish —— ?
<b>Quantum.</b>	Have you in stock and can you furnish —— ?
<b>Quarantine.</b>	Can you furnish within —— ?
<b>Quarrel.</b>	If not how soon could you furnish ?
<b>Quarry.</b>	Have you shipped order —— ?
<b>Quash.</b>	When can you ship —— ?
<b>Queen.</b>	Shall we ship what we have ready ?
<b>Quiver.</b>	If ordered immediately how soon could you furnish —— ?
<b>Quorum.</b>	If you cannot ship at once advise us.
<b>Bedlm.</b>	What is freight rate in car-load lots to —— ?
<b>Bedeck.</b>	What is freight rate in less than car-load lots to —— ?

## ANSWERS.

<b>Abet.</b>	We have shipped per ——
<b>Abhor.</b>	We shipped your order on ——
<b>Abound.</b>	We will ship your order on ——
<b>Abridge.</b>	If ordered promptly by wire we could ship ——
<b>Abrupt.</b>	To-day or to-morrow
<b>Abscond.</b>	To-morrow or next day.
<b>Absurb.</b>	In a few days.
<b>Absolve.</b>	In about a week.
<b>Abundant.</b>	The last of this week.
<b>Accent.</b>	Early next week.
<b>Acquaint.</b>	The middle of next week.
<b>Acquit.</b>	The last of next week.
<b>Across.</b>	We are entirely out of ——
<b>Adage.</b>	Cannot promise positively, but could ship in about ——
<b>Adder.</b>	We expect to ship ——
<b>Admix.</b>	We have no ——, but will ship the other goods promptly.
<b>Baby.</b>	Please reply immediately by wire.
<b>Beetle.</b>	Freight per cwt. car-load lots to —— is ——
<b>Beer.</b>	Freight per cwt. less than car-load lots to —— is ——

## SHIPPING DIRECTIONS.

<b>Aback.</b>	Ship immediately by express.
<b>Abaft.</b>	Ship immediately by steamer.
<b>Abash.</b>	Ship immediately by rail.
<b>Abess.</b>	Send tracer immediately for shipment of ——
<b>Adjunct.</b>	Ship what you have, and let balance follow as soon as possible.
<b>Admire.</b>	Cancel order if you cannot ship by ——
<b>Bed.</b>	Prepay freight.
<b>Cab.</b>	Free on board.
<b>Candy.</b>	Delivered f. o. b. at ——
<b>Flat.</b>	None of the goods you order are in stock.
<b>Abigail.</b>	Piedmont Air Line.
<b>Allice.</b>	Seaboard Air Line.
<b>Angelica.</b>	N. & W. R. R.
<b>Amy.</b>	R., F. & P. R. R.
<b>Augusta.</b>	R. & D. R. R.
<b>Amelia.</b>	R. & P. R. R.
<b>Ann.</b>	C. & O. R. R.
<b>Abbey.</b>	R. & A. R. R.
<b>Agnes.</b>	R. & Y. R. R. R.
<b>Blanche.</b>	O. D. S. S. Co.
<b>Bridget.</b>	Clyde Line.
<b>Betsey.</b>	James River Steamboat Co.













